

OMRON



Axial-flow Fans

Series Catalog



realizing

Warranty and Application Considerations

Read and Understand this Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

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In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.

Know and observe all prohibitions of use applicable to this product.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Disclaimers

PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON *Warranty and Limitations of Liability*.

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons. Consult with your OMRON representative at any time to confirm actual specifications of purchased product.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

Axial-flow Fan

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Selecting the Best Axial-flow Fan

Wide Lineup for Optimal Cleaning Environments

Selecting the Best Axial-flow Fan

AC Axial-flow Fans R87F/R87T

Water-resistant AC Axial-flow Fan
R87T-A□A15H-WR



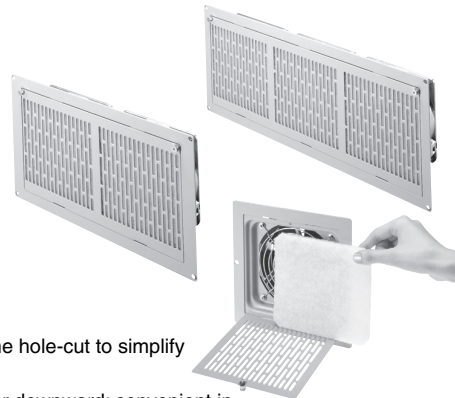
Wide Range of Axial-flow Fans for Optimal Cleaning

- Design for low noise, long service life, and environmental resistance.
- Highly reliable ball bearings.
- Plastic-bladed models (44 types) and metal-bladed models (28 types) included in series.
- R87T-A□A15H-WR Water-resistant AC Axial-flow Fans (IPX7 protection) added to series.
- CE mark compliant. UL and CSA approval pending.

OMRON
Axial-flow
Fans

Box Fans R87B






Comprehensive Lineup of Single, Double, and Triple Axial-flow Fans with Easy One-step Mounting




- Mount in a square cutout and conceals the hole-cut to simplify installation work.
- Cover can be set to open either upward or downward; convenient in confined spaces.
- Complete accessories (Finger Guards, Filters, Plug Cord, Mounting Bolts).
- Optional Replacement Filter and Vent Attachment.
- Lineup includes Single, Double, and Triple Box Fans including 8 models with plastic blades and 8 models with metal blades.






Selecting the Best Axial-flow Fan

Models with Plastic Blades



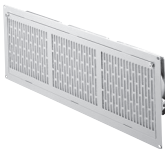
| | | | | | |
|-------------------|---|---|--|---|---|
| Size (mm) |  120 × 120 × t38 |  120 × 120 × t25 |  92 × 92 × t25 |  80 × 80 × t38 |  80 × 80 × t25 |
| Model number | R87F-A□A15□P | R87F-A□A13□P | R87F-A□A93□P | R87F-A□A85□P | R87F-A□A83□ |
| Rated voltage (V) | 100, 115, 200, 230 | 100, 115, 200, 230 | 100, 115, 200, 230 | 100, 115, 200, 230 | 100, 115, 200, 230 |
| Rotational speed | Low, medium, high | Low, high | Low, high | Low, high | Low, high |
| Safety standards | CE marking, PSE, and UL/CSA (pending) | CE marking, PSE, and UL/CSA (pending) | CE marking, PSE, and UL/CSA (pending) | CE marking, PSE, and UL/CSA (pending) | CE marking and UL/CSA (pending) |
| Terminal type | Terminals only | Terminals only | Terminals only | Terminals only | Lead wires only |
| Page | 15 | 17 | 19 | 21 | 23 |

Models with Metal Blades

| | |
|-------------------|---|
| Size (mm) |  120 × 120 × t38 |
| Model number | R87T-A□A15H-WR |
| Rated voltage (V) | 100, 115, 200, 230 |
| Rotational speed | High |
| Safety standards | CE marking and cUL (pending) |
| Terminal type | Lead wires only |
| Page | 25 |

| | | | | | |
|-------------------|--|--|--|---|---|
| Size (mm) |  150 dia. × t55 |  150 dia. × t38 |  120 × 120 × t38 |  80 × 80 × t38 |  80 × 80 × t25 |
| Model number | R87T-A□A07H | R87T-A□A05H | R87T-A□A15□P | R87T-A□A85H | R87T-A□A83H |
| Rated voltage (V) | 100, 115, 200, 230 | 100, 115, 200, 230 | 100, 115, 200, 230 | 100, 115, 200, 230 | 100, 115, 200, 230 |
| Rotational speed | High | High | Medium, high | High | High |
| Safety standards | CE marking and UL (pending) | CE marking and UL (pending) | CE marking, PSE, and UL (pending) | CE marking and UL (pending) | CE marking and UL (pending) |
| Terminal type | Lead wires only | Lead wires only | Terminals only | Lead wires only | Lead wires only |
| Page | 27 | 29 | 31 | 33 | 35 |


Box Fans

| | | | |
|-------------------|---|---|---|
| Size (mm) |  120 × 120 × t38, Single Fan |  120 × 120 × t38, Double Fan |  120 × 120 × t38, Triple Fan |
| Model number | R87B-□A□A15□PF(R) | R87B-□A□A15□PF(R)2 | R87B-□A□A15□PF(R)3 |
| Rated voltage (V) | 100, 115, 200, 230 | 100, 115, 200, 230 | 100, 115, 200, 230 |
| Rotational speed | Low, medium, high | Low, medium, high | Low, medium, high |
| Safety standards | CE marking, PSE, and UL/CSA (pending) | CE marking, PSE, and UL/CSA (pending) | CE marking, PSE, and UL/CSA (pending) |
| Terminal type | Terminals only | Terminals only | Terminals only |
| Page | 43 | 45 | 47 |




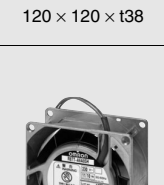


* The safety standards apply to the Fan only.

AC Axial-flow Fans

AC Axial-flow Fans

| Series | Size (mm) | Model | Power supply voltage (V) | Rotational speed | Safety standards | | | | Terminal type | Page |
|-------------------------------|--|--------------|--------------------------|------------------|---------------------|-----|---------------------|---------|----------------|------|
| | | | | | Compliant standards | | Certified standards | | | |
| | | | | | CE mark | PSE | UL | CSA | | |
| R87F Fans with Plastic Blades |  120 × 120 × t38 | R87F-A1A15HP | 100 | High | Yes | Yes | Pending | Pending | Terminals only | 15 |
| | | R87F-A3A15HP | 115 | | | | | | | |
| | | R87F-A4A15HP | 200 | | | | | | | |
| | | R87F-A6A15HP | 230 | | | | | | | |
| | | R87F-A1A15MP | 100 | | | | | | | |
| | | R87F-A3A15MP | 115 | | | | | | | |
| | | R87F-A4A15MP | 200 | | | | | | | |
| | | R87F-A6A15MP | 230 | | | | | | | |
| | | R87F-A1A15LP | 100 | Low | | | | | | |
| | | R87F-A3A15LP | 115 | | | | | | | |
| | | R87F-A4A15LP | 200 | | | | | | | |
| | | R87F-A6A15LP | 230 | | | | | | | |
| | R87F-A1A13HP | 100 | High | | | | | | | |
| | R87F-A3A13HP | 115 | | | | | | | | |
| | R87F-A4A13HP | 200 | | | | | | | | |
| | R87F-A6A13HP | 230 | | | | | | | | |
| | R87F-A1A13LP | 100 | | Low | | | | | | |
| | R87F-A3A13LP | 115 | | | | | | | | |
| | R87F-A4A13LP | 200 | | | | | | | | |
| | R87F-A6A13LP | 230 | | | | | | | | |
| | R87F-A1A93HP | 100 | High | | | | | | | |
| | R87F-A3A93HP | 115 | | | | | | | | |
| | R87F-A4A93HP | 200 | | | | | | | | |
| | R87F-A6A93HP | 230 | | | | | | | | |
| | R87F-A1A93LP | 100 | | Low | | | | | | |
| | R87F-A3A93LP | 115 | | | | | | | | |
| | R87F-A4A93LP | 200 | | | | | | | | |
| | R87F-A6A93LP | 230 | | | | | | | | |
| | R87F-A1A85HP | 100 | High | | | | | | | |
| | R87F-A3A85HP | 115 | | | | | | | | |
| | R87F-A4A85HP | 200 | | | | | | | | |
| | R87F-A6A85HP | 230 | | | | | | | | |
| | R87F-A1A85LP | 100 | | Low | | | | | | |
| | R87F-A3A85LP | 115 | | | | | | | | |
| | R87F-A4A85LP | 200 | | | | | | | | |
| | R87F-A6A85LP | 230 | | | | | | | | |
| R87F-A1A83H | 100 | High | | | | | | | | |
| R87F-A3A83H | 115 | | | | | | | | | |
| R87F-A4A83H | 200 | | | | | | | | | |
| R87F-A6A83H | 230 | | | | | | | | | |
| R87F-A1A83L | 100 | | Low | | | | | | | |
| R87F-A3A83L | 115 | | | | | | | | | |
| R87F-A4A83L | 200 | | | | | | | | | |
| R87F-A6A83L | 230 | | | | | | | | | |



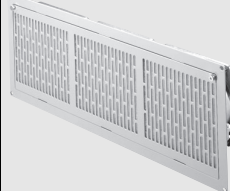
| | | | | | | | | |
|---------------|-------------|-----|-----|-----|---------|-----|-----|----|
| Plug Cords | R87F-PC | --- | --- | --- | Pending | --- | --- | 37 |
| | R87F-PCJT | | --- | Yes | --- | --- | | |
| Finger Guards | R87F-FG□ | | --- | --- | --- | --- | | 38 |
| | R87F-FL□ | | --- | --- | --- | --- | | |
| Filters | R87F-FL120S | | --- | --- | --- | --- | | 39 |

| Series | Size (mm) | Model | Power supply voltage (V) | Rotational speed | Safety standards | | | | Terminal type | Page | |
|-----------------------------|--|--|--------------------------|------------------|---------------------|----------------|---------------------|-----|-----------------|------|--------|
| | | | | | Compliant standards | | Certified standards | | | | |
| | | | | | CE mark | PSE | UL | CSA | | | |
| R87T Fans with Metal Blades |  120 × 120 × t38 | R87T-A1A15H-WR | 100 | High | Yes | Not applicable | cUL pending | --- | Lead wires only | 25 | |
| | | R87T-A3A15H-WR | 115 | | | | | | | | |
| | | R87T-A4A15H-WR | 200 | | | | | | | | |
| | | R87T-A6A15H-WR | 230 | | | | | | | | |
| |  150 dia. × t55 | R87T-A1A07H | 100 | High | Yes | Not applicable | Pending | --- | Lead wires only | 27 | |
| | | R87T-A3A07H | 115 | | | | | | | | |
| | | R87T-A4A07H | 200 | | | | | | | | |
| | | R87T-A6A07H | 230 | | | | | | | | |
| |  150 dia. × t38 | R87T-A1A05H | 100 | High | Yes | Not applicable | Pending | --- | Lead wires only | 29 | |
| | | R87T-A3A05H | 115 | | | | | | | | |
| | | R87T-A4A05H | 200 | | | | | | | | |
| | | R87T-A6A05H | 230 | | | | | | | | |
| |  120 × 120 × t38 | R87T-A1A15HP | 100 | High | Yes | Yes | Pending | --- | Terminals only | 31 | |
| | | R87T-A3A15HP | 115 | | | | | | | | |
| | | R87T-A4A15HP | 200 | | | | | | | | |
| | | R87T-A6A15HP | 230 | | | | | | | | |
| | |  120 × 120 × t38 | R87T-A1A15MP | 100 | | | | | | | Medium |
| | | | R87T-A3A15MP | 115 | | | | | | | |
| | | | R87T-A4A15MP | 200 | | | | | | | |
| | | | R87T-A6A15MP | 230 | | | | | | | |
| |  80 × 80 × t38 | R87T-A1A85H | 100 | High | Yes | Not applicable | Pending | --- | Lead wires only | 33 | |
| | | R87T-A3A85H | 115 | | | | | | | | |
| | | R87T-A4A85H | 200 | | | | | | | | |
| | | R87T-A6A85H | 230 | | | | | | | | |
| |  80 × 80 × t25 | R87T-A1A83H | 100 | High | Yes | Not applicable | Pending | --- | Lead wires only | 35 | |
| | | R87T-A3A83H | 115 | | | | | | | | |
| | | R87T-A4A83H | 200 | | | | | | | | |
| | | R87T-A6A83H | 230 | | | | | | | | |

AC Axial-flow Fans

Box Fans

Box Fans

| Series | Size (mm) | Model | Power supply voltage (V) | Rotational speed | Safety standards* | | | | Terminal type | Page | | | | | | | |
|--------------------|--|---|--------------------------|------------------|---------------------|-----|---------------------|-----|----------------|------|------|-----|-----|-----|-----|----------------|----|
| | | | | | Compliant standards | | Certified standards | | | | | | | | | | |
| | | | | | CE mark | PSE | UL | CSA | | | | | | | | | |
| R87B Box Fans |  | R87B-FA1A15HPF(R) | 100 | High | --- | --- | --- | --- | Terminals only | 43 | | | | | | | |
| | | R87B-FA3A15HPF(R) | 115 | | | | | | | | | | | | | | |
| | | R87B-FA4A15HPF(R) | 200 | | | | | | | | | | | | | | |
| | | R87B-FA6A15HPF(R) | 230 | | | | | | | | | | | | | | |
| | | R87B-FA1A15LPF(R) | 100 | Low | | | | | | | | | | | | | |
| | | R87B-FA3A15LPF(R) | 115 | | | | | | | | | | | | | | |
| | | R87B-FA4A15LPF(R) | 200 | | | | | | | | | | | | | | |
| | | R87B-FA6A15LPF(R) | 230 | | | | | | | | | | | | | | |
| | | R87B-TA1A15HPF(R) | 100 | High | | | | | | | | | | | | | |
| | | R87B-TA3A15HPF(R) | 115 | | | | | | | | | | | | | | |
| | | R87B-TA4A15HPF(R) | 200 | | | | | | | | | | | | | | |
| | | R87B-TA6A15HPF(R) | 230 | | | | | | | | | | | | | | |
| | R87B-TA1A15MPF(R) | 100 | Medium | | | | | | | | | | | | | | |
| | R87B-TA3A15MPF(R) | 115 | | | | | | | | | | | | | | | |
| | R87B-TA4A15MPF(R) | 200 | | | | | | | | | | | | | | | |
| | R87B-TA6A15MPF(R) | 230 | | | | | | | | | | | | | | | |
| |  | R87B-FA1A16HPF(R)2 | 100 | High | --- | --- | --- | --- | Terminals only | 45 | | | | | | | |
| | | R87B-FA3A16HPF(R)2 | 115 | | | | | | | | | | | | | | |
| | | R87B-FA4A16HPF(R)2 | 200 | | | | | | | | | | | | | | |
| | | R87B-FA6A16HPF(R)2 | 230 | | | | | | | | | | | | | | |
| | | R87B-FA1A16LPF(R)2 | 100 | Low | | | | | | | | | | | | | |
| | | R87B-FA3A16LPF(R)2 | 115 | | | | | | | | | | | | | | |
| | | R87B-FA4A16LPF(R)2 | 200 | | | | | | | | | | | | | | |
| | | R87B-FA6A16LPF(R)2 | 230 | | | | | | | | | | | | | | |
| | | R87B-TA1A16HPF(R)2 | 100 | High | | | | | | | | | | | | | |
| | | R87B-TA3A16HPF(R)2 | 115 | | | | | | | | | | | | | | |
| | | R87B-TA4A16HPF(R)2 | 200 | | | | | | | | | | | | | | |
| | | R87B-TA6A16HPF(R)2 | 230 | | | | | | | | | | | | | | |
| | | R87B-TA1A16MPF(R)2 | 100 | Medium | | | | | | | | | | | | | |
| | | R87B-TA3A16MPF(R)2 | 115 | | | | | | | | | | | | | | |
| | | R87B-TA4A16MPF(R)2 | 200 | | | | | | | | | | | | | | |
| | | R87B-TA6A16MPF(R)2 | 230 | | | | | | | | | | | | | | |
| | |  | R87B-FA1A16HPF(R)3 | 100 | | | | | | | High | --- | --- | --- | --- | Terminals only | 47 |
| | | | R87B-FA3A16HPF(R)3 | 115 | | | | | | | | | | | | | |
| | R87B-FA4A16HPF(R)3 | | 200 | | | | | | | | | | | | | | |
| | R87B-FA6A16HPF(R)3 | | 230 | | | | | | | | | | | | | | |
| R87B-FA1A16LPF(R)3 | 100 | | Low | | | | | | | | | | | | | | |
| R87B-FA3A16LPF(R)3 | 115 | | | | | | | | | | | | | | | | |
| R87B-FA4A16LPF(R)3 | 200 | | | | | | | | | | | | | | | | |
| R87B-FA6A16LPF(R)3 | 230 | | | | | | | | | | | | | | | | |
| R87B-TA1A16HPF(R)3 | 100 | | High | | | | | | | | | | | | | | |
| R87B-TA3A16HPF(R)3 | 115 | | | | | | | | | | | | | | | | |
| R87B-TA4A16HPF(R)3 | 200 | | | | | | | | | | | | | | | | |
| R87B-TA6A16HPF(R)3 | 230 | | | | | | | | | | | | | | | | |
| R87B-TA1A16MPF(R)3 | 100 | | Medium | | | | | | | | | | | | | | |
| R87B-TA3A16MPF(R)3 | 115 | | | | | | | | | | | | | | | | |
| R87B-TA4A16MPF(R)3 | 200 | | | | | | | | | | | | | | | | |
| R87B-TA6A16MPF(R)3 | 230 | | | | | | | | | | | | | | | | |
| Attachments | | | R87B-N□ | | --- | --- | --- | --- | --- | 49 | | | | | | | |
| Replacement Filter | | | R87B-PF01 | | | | | | | | | | | | | | |

* An R87B Box Fan consists of an AC Axial-flow Fan in a square mounting attachment. The safety standards apply to the AC Axial-flow Fan in the Box Fan. For details, refer to the safety standards for the AC Axial-flow Fan. The model number of the AC Axial-flow Fan in the Box Fan can be determined from the model number of the Box Fan as follows:

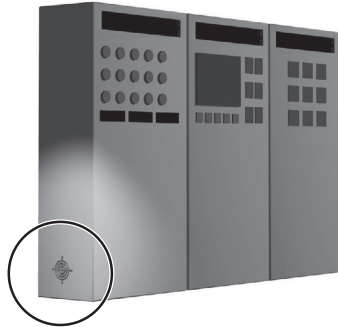
R87B-FA1A15HPF → R87F-A1A15HP

The model number of the Axial-flow Fan can be determined by extracting the underlined portions from the model number of the Box Fan as shown.

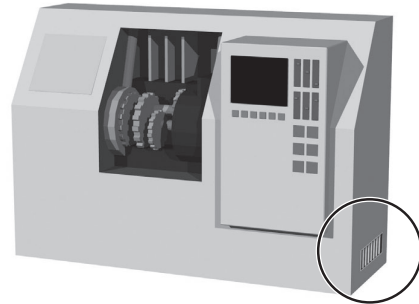
Applications for Axial-flow Fans

Axial-flow Fans can perform stable cleaning in a variety of purposes and locations.

■ Control Panels



■ Machine Tools



■ Measurement Devices



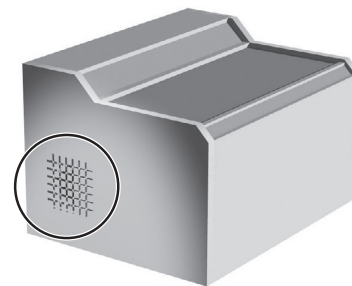
■ Medical Devices



■ Solder Fume Suction Equipment




■ Vending Machines and Showcases




Note: Water-resistant fans are recommended for vending machines and showcases.


Safety Precautions for All Axial-flow Fans


⚠ WARNING


Do not touch the blades. Doing so may result in injury. Always mount the optional Finger Guard when there is any possibility that a person may touch the fan blade. 


Do not use the Box Fan with the Finger Guard removed. Make sure that power is turned OFF before performing any action that requires touching the blades, such as inspections or filter replacement. 


⚠ CAUTION


Do not hold the Fan by its power lines, or pull the power lines with excessive force. Injury may occasionally occur if the Fan falls. 


Do not insert objects into the rotating parts of the Fan. Fan failure may occasionally result in property damage or minor injury. 


Do not allow the Fan to be subjected to shock, such as falling, otherwise the service life and performance characteristics of the Fan will be adversely affected. Precision-type ball bearings are used to hold the shaft of the Fan. 

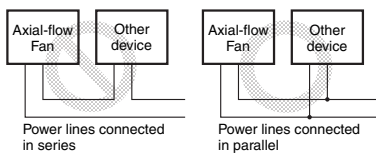
Do not use the Fan outside the rated temperature range or above the rated voltage. The resulting increase in coil temperature or blade deformation may occasionally cause burns or other minor injuries. Do not touch the motor section during operation or immediately after stopping operation. 


Do not use the Fan in locations subject to flammable or explosive gases. Minor injury may occasionally occur due to explosion. 


Do not attempt to disassemble, repair, or modify the Fan. Property damage or minor injury may occasionally occur due to electric shock, fire, or Fan failure. 

Unexpected operation of the Fan after, for example, the Fan has stopped due to contact failure or due to the operation of overheating protection (thermal protection), may result in minor injury. Make sure that the power is turned OFF before performing any action that requires touching the blades, such as inspections. 

Do not wire the power lines of the Fan in series with those of other Fans or devices. Wire the devices in parallel. Fan failure may occasionally result in property damage or minor injury. 



Be sure to secure the Fan with the mounting bolts. Not doing so may result in injury due to the Fan falling. Use M4 bolts to mount the Fan. Recommended tightening torque: 0.44 N·m. 

Provide measures, such as circuit-breaker fuses, on the power supply lines of devices that are using Axial-flow Fans. Short-circuiting of the Fan may adversely affect other devices. 

■ Precautions for Safe Use

Do not install the Fan in the following locations.

- Locations subject directly to water (except for water-resistant Fans)
- Locations subject directly to oil
- Locations subject directly to vibration or shock
- Locations subject to strong static electricity or harmonics
- Locations subject to excessive dust or metallic powder
- Locations subject to direct sunlight
- Locations subject to condensation or icing
- Locations subject to corrosive gases (particularly sulfide and ammonia gases)

■ Precautions for Correct Use

1. Check the direction of the airflow before installing the Fan. The direction of the airflow is indicated with an arrow on the Fan frame. The arrow points in the direction that the air flows.
2. Refer to the panel cutout dimensions in each datasheet to cut a hole in the installation device and secure the Fan with bolts.
3. The Fan is intended for cooling and air circulation. Do not use it for other purposes.
4. Dispose of the Fan as industrial waste.
5. Ensure that no organic solvents or alkaline chemicals are in contact with plastic parts of the Fan, otherwise cracks, swelling, or dissolution may result.
6. Secure the cover of the Box Fan with the mounting bolts. If the cover is loose, vibration may cause it to come off.
7. Do not remove the cover while the Box Fan is operating.

■ Precautions for Correct Use

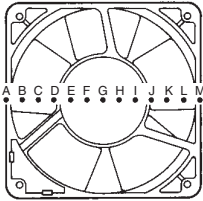
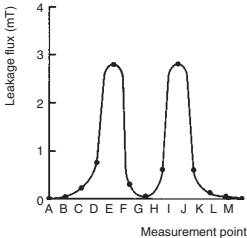
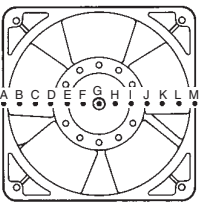
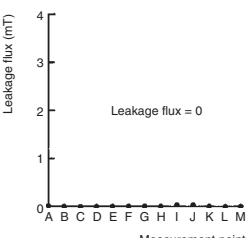
Leakage Flux

- Leakage flux from an Axial-flow Fan may distort the image on nearby CRT screens. Measures to prevent this problem include:

- Keeping CRTs at least 30 cm away from the Axial-flow Fan
- Shielding the Axial-flow Fan side with metal mesh.

The leakage flux from a Fan with metal blades is less than with plastic blades. The leakage flux distribution curves are shown below as examples.

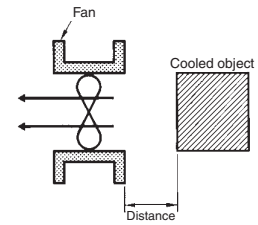
R87T and Other AC Axial-flow Fans

| | | |
|--------|---------------------------|---|
| Inlet | Dimensions |  |
| | Leakage flux distribution |  |
| Outlet | Dimensions |  |
| | Leakage flux distribution |  |

Noise Countermeasures

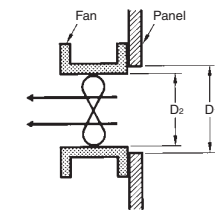
- The cooling effect and noise levels of Axial-flow Fans are greatly affected by the mounting conditions. Take the points listed below into account when installing the Fans.

- Maintain as much clearance as possible between the Fan inlet and the cooled object. (If the cooled object occupies about the same surface area as the Fan on a flat surface, a distance of approximately 10 cm is appropriate.)



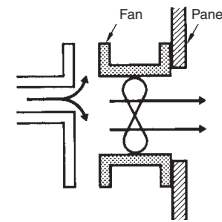
- The diameter of the Fan installation hole (D_2) should be larger than the diameter of the Fan (D_1).

D_1 : Fan installation hole diameter
 D_2 : Fan diameter
 $D_1 > D_2$

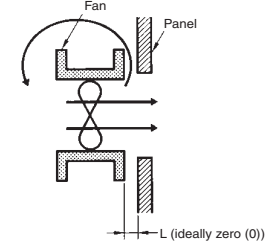


Cooling Effect

- Avoid rapid changes in air flow direction or air-flow cross-section which reduce the cooling effect.



- When installing the Fan, keep the clearance at the outlet side as small as possible. (If there is a large clearance at the outlet side, it may not be possible to obtain a sufficient cooling effect.)

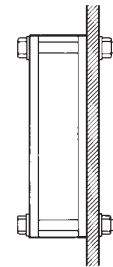
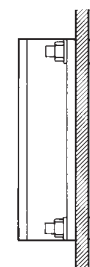


Axial-flow Fan Installation

- The Fan can be mounted with bolts through only one flange (single-flange mounting) or with through-bolts through both flanges (double-flange mounting). Take care not to distort the frame when using double-flange mounting. Tighten the bolts to a torque of approximately 0.44 N·m when installing the Fan.

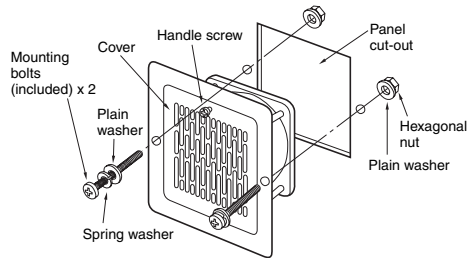
Single-flange mounting

Double-flange mounting



Box Fan Installation

- As shown in the figure, line the Box Fan up with the screw holes, insert it into the panel cut-out, and firmly secure it with the enclosed mounting bolts and nuts.
- The cover can be mounted either upward or downward. Use whichever direction is convenient.



Flow Rate and Static Pressure

The characteristic graphs provided for each of the models represent the average of actual measurement data obtained under the measurement conditions given below. They are provided as reference for determining the Fan most suitable for the type of cooling required; the actual characteristics may differ from the values represented in the graphs. The graphs are not intended to guarantee these characteristic values.

A simple explanation of the flow rate/static pressure characteristics and the methods of measuring them is given below.

Note: The following symbols are used in the graph below for the flow rate/static pressure characteristics model: ○ ○ ●

○ Maximum Static Pressure, Ps max. (flow rate = 0):

Fully close the damper. Take the pressure difference between chamber B and ambient pressure (Ps). The maximum value of the pressure difference (Ps) is the maximum static pressure (Ps max).

○ Intermediate Region, (Q, Ps):

Adjust the auxiliary blower to change the static pressure (Ps). Measure the pressure difference between chamber A and chamber B (Pd). Calculate the flow rate (Q).

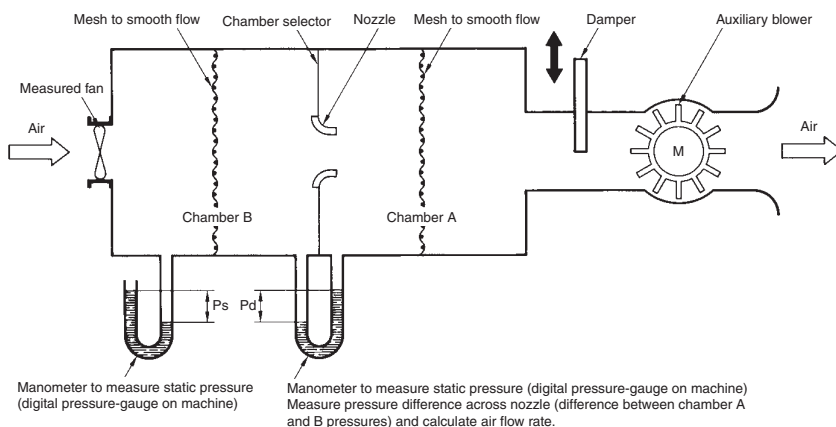
● Maximum Flow Rate, Q max. (static pressure = 0):

Fully open the damper and adjust the auxiliary blower to set the static pressure to zero (0). Measure the pressure difference between chamber A and chamber B (Pd). Take the flow rate (Q) calculated at this point as the maximum flow rate (Q max.).

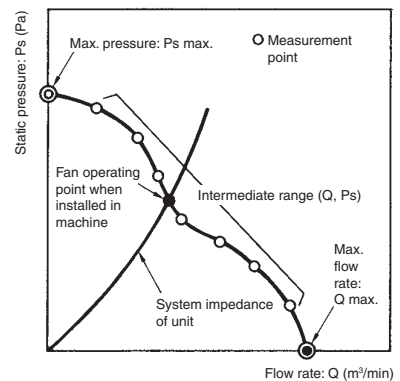
Measurement Conditions

| Number of Fans tested | Ambient conditions | Measurement device |
|-----------------------|---|---|
| 5 | Temperature: 23 ±2°C Humidity: 65% ±5% | Measurement was performed using the multi-nozzle double chamber method based on AMCA (Air Moving Condition Association, U.S.A.) Standards 270 to 274. |

Flow Rate Measurement Device



Flow Rate/Static Pressure Characteristic Model

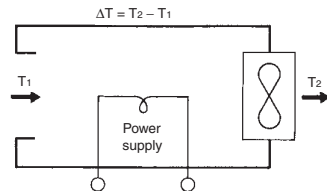


Safety Precautions for All Axial-flow Fans

Selecting a Fan

Procedure

1. Estimate the amount of heat generated (W) inside the Unit.
2. Set the maximum permitted temperature rise limit (ΔT) inside the Unit.



T1: Temperature of the inlet air (°C).
T2: Temperature of the outlet air (°C).

3. Calculate the required flow rate.

$$Q = \frac{50 W}{\Delta T} \text{ m}^3/\text{min}$$

Q = flow rate (m³/min.)
 ΔT = permitted temperature rise limit (°C)
 (Normally between 8 to 10°C.)
 W = amount of heat generated (kW)

4. Estimate the system impedance from the air flow through the Unit or from previous data.

$$\Delta P = KQ^n$$

ΔP : Pressure drop (Pa)
 K: Unit constant
 n: Coefficient determined by air flow
 n=1: laminar flow
 n=2: turbulent flow
 (n=2 is the normal value.)

5. Select the Fan according to the P - Q characteristics.
6. Measure the temperature rise in an installed Unit.
7. Reappraise the Fan if the measured cooling effect is insufficient.

The procedure to select a Fan is described above. It is difficult, however, to obtain the actual system impedance.

In general, therefore, select a Fan with a maximum flow rate of from 1.3 to 2 times the flow rate required.

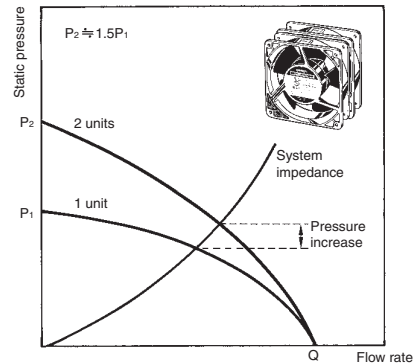
As a rough guide, 1.3 times for a small system impedance, 1.5 times for medium, and 2 times for large.

Reconsider the Fan if the cooling effect is insufficient after the selected fan has been installed in the Unit and the temperature rise has been measured.

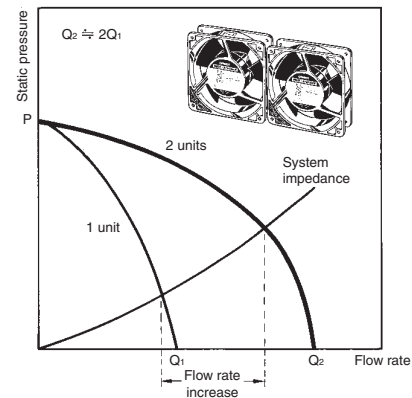
Serial and Parallel Fan Operation

The characteristics of two identical Fans operated in series or parallel are determined as shown in the following diagrams.

Serial Operation:



Parallel Operation:



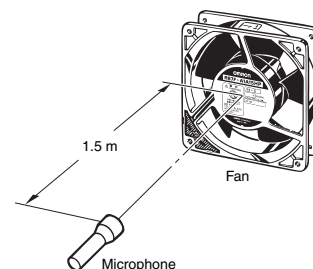
Noise Measurements

The following two methods are available for measuring Fan noise. These are used interchangeably by Fan manufacturers so that the measurement method is not standardized.

JIS B 8330: Testing and Inspection Methods for Fans

JIS C 9603: Extractor Fans

OMRON conducts testing according to JIS (Japan Industrial Standard) C 9603 because of the small size and low noise levels of the Fans and because of their similarity in shape to extractor fans. This standard prescribes that the noise be measured at a distance of 1.5 m (A characteristics) from the side of the Fan.



Technical Guide for Axial Fans

■ Axial Fan Glossary

Nominal Value

The average value of data based on actual measurements. Nominal values cannot be treated as rated values. Ask your OMRON representative for details on rated values.

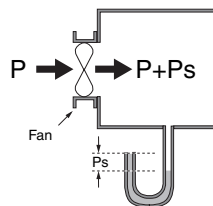
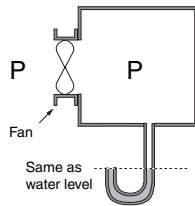
Flow Rate: Q (m³/min.)

The volume of air discharged by the Fan in a unit of time.

Static Pressure: Ps (Pa)

The pressure difference across the front to the back of the Fan generated by the discharged air, which is unaffected by air flow speed.

1. The air pressure across the front to the back of the Fan does not change when the Fan is stopped.
2. Static pressure (Ps) is generated at the front of the Fan when it rotates.

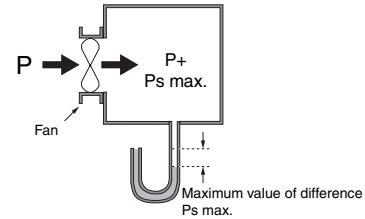


Maximum Flow Rate: Q max. (m³/min.)

The volume of air discharged by the Fan when the static pressure is adjusted to zero (Pa) at the flow measurement unit.

Maximum Static Pressure: Ps max. (Pa)

The pressure difference inside and outside the Unit when the flow rate is adjusted to zero (0 m³/min.) at the flow measurement unit. This would be the pressure in front of the Unit when the front of the fan was completely sealed.



System Impedance

The flow resistance inside a mounted Axial Fan caused by the density of parts and shape of the flow path.

Impedance Protection

A method of preventing burning damage when the motor is restricted from rotating by setting the motor winding impedance (AC resistance) to a value giving a temperature rise in the windings below the temperature at which burning occurs.

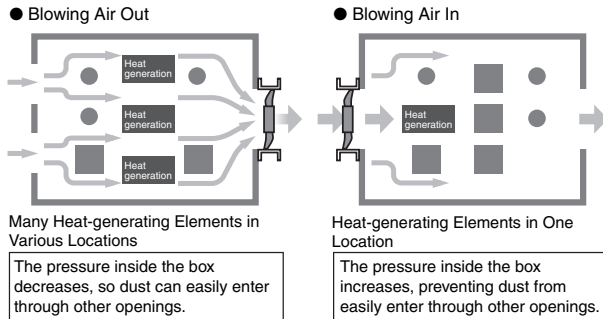
Thermal Protection

A method of preventing burning damage when the motor is restricted from rotating by setting a thermal element to interrupt operation before the motor reaches a temperature at which burning occurs.

Q&A for Axial Fans

Q1 Which has a better cooling effect, blowing air in or blowing air out?

A1 It depends on the location and number of heat-generating elements.



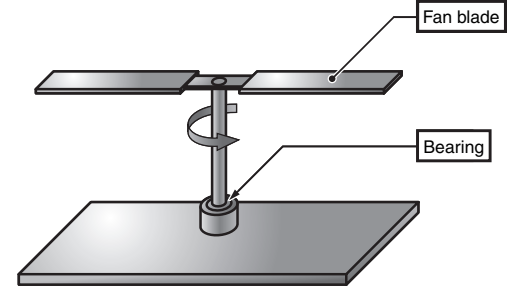
Q2 What kind of precautions are there for building an Axial Fan into equipment?

A2 Always mount the optional Finger Guard when there is any possibility that a person may touch the Fan blade.

- Note:**
1. Mount a protective shield or screen, or the optional Finger Guard to the Axial Fan installation.
 2. Do not use a Box Fan with the Finger Guard removed. Injury may occur as a result of touching the Fan blade.
 3. There are various types of optional R87F-FG Finger Guards available. Select the one that suits the size of the Axial Fan.
 4. Always turn OFF the power and confirm that the Fan blade has stopped turning before starting to conduct an inspection, replace the filter, etc. Injury may occur as a result of touching the Fan blade.

Q3 How do you define the service life of an Axial Fan?

A3 The service life of an Axial Fan is generally determined by the bearings. The following diagram is a simple, mechanical illustration of the Fan structure. The Fan blade will turn smoothly if the bearings are in normal condition. When there is an abnormality in the bearings, however, the friction between the shaft and the bearings will increase until the blade eventually stops turning. This is the definition of a Fan's service life.



A mechanical illustration of the Axial Fan structure

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans R87F/R87T

Optimum Cooling with a Comprehensive Lineup of Axial-flow Fans

- Low noise level, long service life, and resistance to the environment.
- Shaft supported by ball bearings for highly-reliable operation.
- Plastic-bladed models (44 type) and metal-bladed models (28 type) included in series.
- R87T-A□A15H-WR Water-resistant AC Axial-flow Fans (IP X7 degree of protection) added to series.
- CE mark compliant. UL and CSA approval pending.



Be sure to read the *Safety Precautions for All Axial-flow Fans* on page 8.

Model Number Structure

Model Number Legend

R87 □ - □ □ □ □ □ □ - □
1 2 3 4 5 6 7 8

1. Basic series

R87F: Plastic blade
R87T: Metal blade

2. Rated voltage

A1: 100 VAC
A3: 115 VAC
A4: 200 VAC
A6: 230 VAC

3. Frame material

A: Die-cast aluminum

4. Frame size

0: 150 dia.
1: 120 × 120
9: 92 × 92
8: 80 × 80

5. Frame thickness

3: 25
5: 38
7: 55

6. Rotational speed

H: High
M: Medium
L: Low

7. Terminal type

No marking: Lead wires
P: Terminals (See note 1.)

8. Type

No marking: Standard
WR: Water-resistant

- Note:** 1. A Plug Cord (R87F-PC) is available as an option for models with terminals.
2. These tables show only how to read product markings. They do not indicate which products are available. Refer to *Ratings and Ordering Information* when ordering.

Ordering Information

Available Models

AC Axial-flow Fans

| Series | Size (mm) | Model | Datasheet available |
|--------------------------|-----------------|----------------|---------------------|
| R87F (plastic blades) | 120 × 120 × t38 | R87F-A□A15 | Refer to page 15. |
| | 120 × 120 × t25 | R87F-A□A13 | Refer to page 17. |
| | 92 × 92 × t25 | R87F-A□A93 | Refer to page 19. |
| | 80 × 80 × t38 | R87F-A□A85 | Refer to page 21. |
| | 80 × 80 × t25 | R87F-A□A83 | Refer to page 23. |
| R87T (metal blades) | 120 × 120 × t38 | R87T-A□A15H-WR | Refer to page 25. |
| | 150-dia. × t55 | R87T-A□A07 | Refer to page 27. |
| | 150-dia. × t38 | R87T-A□A05 | Refer to page 29. |
| | 120 × 120 × t38 | R87T-A□A15 | Refer to page 31. |
| | 80 × 80 × t38 | R87T-A□A85 | Refer to page 33. |
| | 80 × 80 × t25 | R87T-A□A83 | Refer to page 35. |

Options

| Product name | Model | Datasheet available |
|--------------|-------------|---------------------|
| Plug Cord | R87F-PC | Refer to page 37. |
| Finger Guard | R87F-FG□ | Refer to page 38. |
| Filter | R87F-FL□(S) | Refer to page 39. |

Note: Mounting screws are not provided.

Safety Precautions

Refer to the "Safety Precautions for All Axial-flow Fans" on page 8 to 11.

AC Axial-flow Fans with Terminals (120 × 120 × t38 mm)

R87F-A□A15

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item Model | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|---------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| R87F-A1A15HP | 100 | 85% to 110% rated voltage | 50/60 | 0.230 | 0.220 | 15 | 14 | 2,750 | 3,200 | 2.7 | 3.1 | 93.1 | 99.0 | 42 | 46 | |
| R87F-A3A15HP | 115 | | | 0.200 | 0.180 | | | | | | | | | | | |
| R87F-A4A15HP | 200 | | | 0.110 | 0.100 | | | | | | | | | | | |
| R87F-A6A15HP | 230 | | | 0.100 | 0.085 | | | | | | | | | | | |
| R87F-A1A15MP | 100 | 85% to 110% rated voltage | 50/60 | 0.210 | 0.180 | 15 | 14 | 2,450 | 2,700 | 2.2 | 2.5 | 63.7 | 63.7 | 39 | 42 | |
| R87F-A3A15MP | 115 | | | 0.190 | 0.160 | | | | | | | | | | | |
| R87F-A4A15MP | 200 | | | 0.100 | 0.090 | | | | | | | | | | | |
| R87F-A6A15MP | 230 | | | 0.085 | 0.075 | | | | | | | | | | | |
| R87F-A1A15LP | 100 | 85% to 110% rated voltage | 50/60 | 0.170 | 0.150 | 11 | 10 | 2,100 | 2,250 | 2.0 | 2.1 | 44.1 | 44.1 | 36 | 38 | |
| R87F-A3A15LP | 115 | | | 0.150 | 0.130 | | | | | | | | | | | |
| R87F-A4A15LP | 200 | | | 0.080 | 0.070 | | | | | | | | | | | |
| R87F-A6A15LP | 230 | | | 0.072 | 0.064 | | | | | | | | | | | |

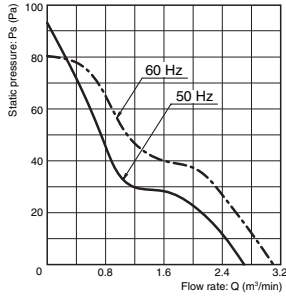
■ Characteristics

| | |
|-------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Terminals |
| Insulation class | IEC class B (130°C) UL class A (105°C) CSA class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -30 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Impedance protection |
| Materials | Frame: Die-cast aluminum Blades: Glass polycarbonate |
| Bearings | Ball bearings |
| Weight | 540 g |
| Compliant standards | PSE, EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL/CSA (pending) |

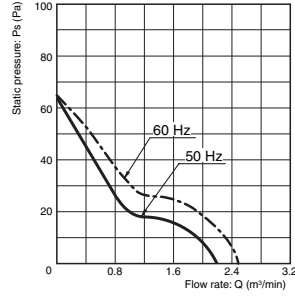
R87F-A□A15

■ Flow Rate and Static Pressure Characteristics (Reference Values)

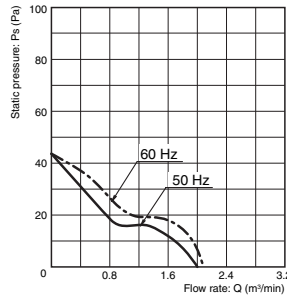
R87F-A□A15HP



R87F-A□A15MP

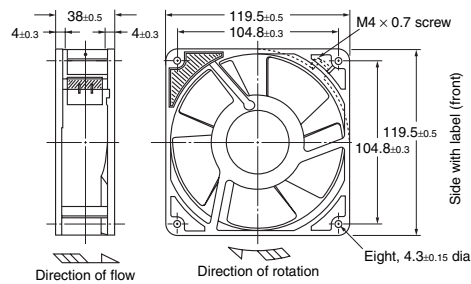


R87F-A□A15LP



Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Screw hole for grounding



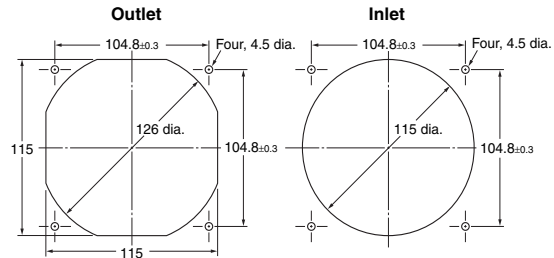
M4 screw: 0.7 pitch

Terminal shape



Faston #110 terminals (or equivalent)

Panel Cutouts



Options

| Name | Model | Datasheet available |
|--------------|---------------|---------------------|
| Plug Cord | R87F-PC | Refer to page 37. |
| Finger Guard | R87F-FG120 | Refer to page 38. |
| Filter | R87F-FL120(S) | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Terminals (120 × 120 × t25 mm)

R87F-A□A13

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|--------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| Model | | | | | | | | | | | | | | | | |
| R87F-A1A13HP | 100 | 85% to 110% rated voltage | 50/60 | 0.180 | 0.150 | 14 | 12 | 2,400 | 2,800 | 1.9 | 2.2 | 44.1 | 42.2 | 39 | 43 | |
| R87F-A3A13HP | 115 | | | 0.160 | 0.130 | | | | | | | | | | | |
| R87F-A4A13HP | 200 | | | 0.096 | 0.078 | | | | | | | | | | | |
| R87F-A6A13HP | 230 | | | 0.085 | 0.068 | | | | | | | | | | | |
| R87F-A1A13LP | 100 | 85% to 110% rated voltage | 50/60 | 0.140 | 0.110 | 12 | 10 | 1,700 | 2,000 | 1.3 | 1.5 | 19.6 | 23.5 | 32 | 34 | |
| R87F-A3A13LP | 115 | | | 0.130 | 0.100 | | | | | | | | | | | |
| R87F-A4A13LP | 200 | | | 0.070 | 0.055 | | | | | | | | | | | |
| R87F-A6A13LP | 230 | | | 0.052 | 0.045 | | | | | | | | | | | |

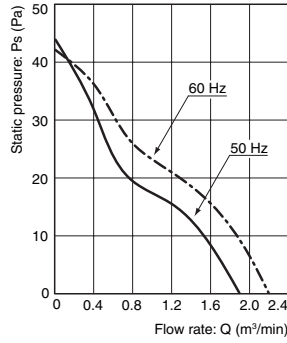
■ Characteristics

| | |
|--------------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Terminals |
| Insulation class | IEC class B (130°C) UL class A (105°C) CSA class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -30 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Impedance protection |
| Materials | Frame: Die-cast aluminum Blades: Glass polycarbonate |
| Bearings | Ball bearings |
| Weight | 350 g |
| Compliant standards | PSE, EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL/CSA (pending) |

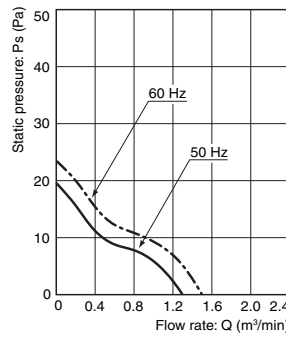
R87F-A□A13

■ Flow Rate and Static Pressure Characteristics (Reference Values)

R87F-A□A13HP

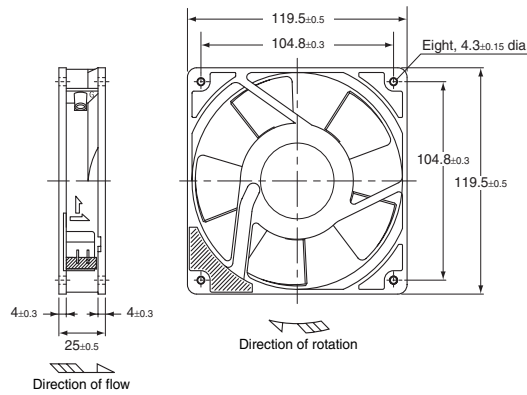


R87F-A□A13LP



Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Screw hole for grounding



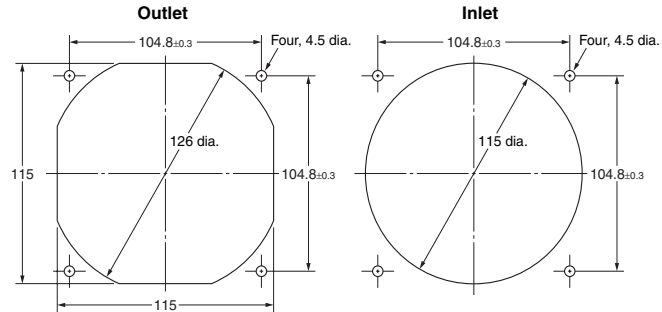
M4 screw: 0.7 pitch

Terminal shape



Faston #110 terminal (or equivalent)

Panel Cutouts



Options

| Name | Model | Datasheet available |
|--------------|---------------|---------------------|
| Plug Cord | R87F-PC | Refer to page 37. |
| Finger Guard | R87F-FG120 | Refer to page 38. |
| Filter | R87F-FL120(S) | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Terminals (92 × 92 × t25 mm)

R87F-A□A93

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|--------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| Model | | | | | | | | | | | | | | | | |
| R87F-A1A93HP | 100 | 85% to 110% rated voltage | 50/60 | 0.150 | 0.130 | 13 | 11 | 2,550 | 3,050 | 0.9 | 1.0 | 49.0 | 68.6 | 33 | 36 | |
| R87F-A3A93HP | 115 | | | 0.125 | 0.100 | | | | | | | | | | | |
| R87F-A4A93HP | 200 | | | 0.070 | 0.060 | | | | | | | | | | | |
| R87F-A6A93HP | 230 | | | 0.055 | 0.050 | | | | | | | | | | | |
| R87F-A1A93LP | 100 | 85% to 110% rated voltage | 50/60 | 0.100 | 0.085 | 7 | 6 | 1,900 | 2,200 | 0.7 | 0.8 | 24.5 | 34.3 | 29 | 32 | |
| R87F-A3A93LP | 115 | | | 0.090 | 0.075 | | | | | | | | | | | |
| R87F-A4A93LP | 200 | | | 0.050 | 0.043 | | | | | | | | | | | |
| R87F-A6A93LP | 230 | | | 0.045 | 0.040 | | | | | | | | | | | |

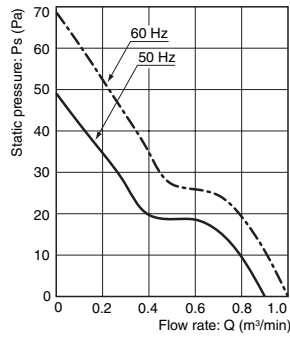
■ Characteristics

| | |
|--------------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Terminals |
| Insulation class | IEC class B (130°C) UL class A (105°C) CSA class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -30 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Impedance protection |
| Materials | Frame: Die-cast aluminum Blades: Glass polycarbonate |
| Bearings | Ball bearings |
| Weight | 300 g |
| Compliant standards | PSE, EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL/CSA (pending) |

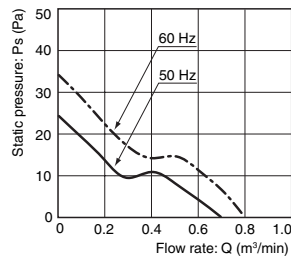
R87F-A□A93

■ Flow Rate and Static Pressure Characteristics (Reference Values)

R87F-A□A93HP

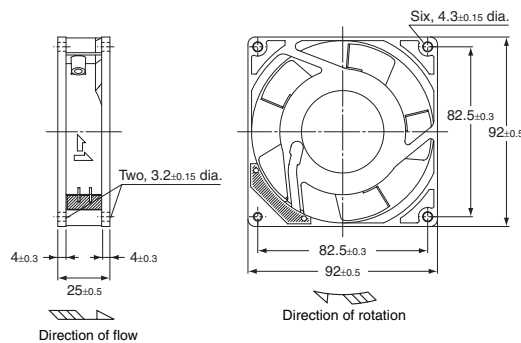


R87F-A□A93LP



Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Screw hole for grounding



M4 screw: 0.7 pitch

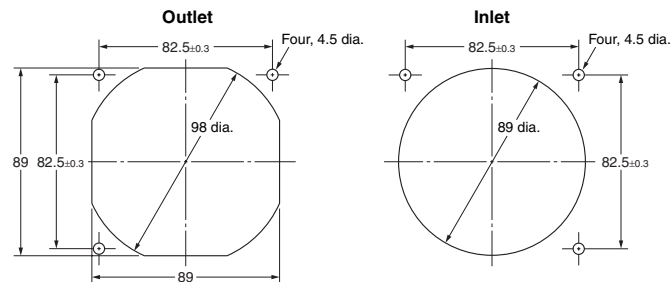
Terminal shape



Faston #110 terminal (or equivalent)

Panel Cutouts

Panel cutting reference dimensions (note 3 mounting holes)



Options

| Name | Model | Datasheet available |
|--------------|-----------|---------------------|
| Plug Cord | R87F-PC | Refer to page 37. |
| Finger Guard | R87F-FG90 | Refer to page 38. |
| Filter | R87F-FL90 | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Terminals (80 × 80 × t38 mm)

R87F-A□A85

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|--------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| Model | | | | | | | | | | | | | | | | |
| R87F-A1A85HP | 100 | 85% to 110% rated voltage | 50/60 | 0.140 | 0.115 | 10 | 9 | 2,700 | 3,200 | 0.8 | 0.9 | 42.1 | 58.8 | 32 | 36 | |
| R87F-A3A85HP | 115 | | | 0.120 | 0.100 | | | | | | | | | | | |
| R87F-A4A85HP | 200 | | | 0.080 | 0.060 | | | | | | | | | | | |
| R87F-A6A85HP | 230 | | | 0.060 | 0.050 | | | | | | | | | | | |
| R87F-A1A85LP | 100 | 85% to 110% rated voltage | 50/60 | 0.090 | 0.080 | 7 | 6 | 2,200 | 2,500 | 0.6 | 0.7 | 25.0 | 32.0 | 26 | 29 | |
| R87F-A3A85LP | 115 | | | 0.080 | 0.070 | | | | | | | | | | | |
| R87F-A4A85LP | 200 | | | 0.050 | 0.040 | | | | | | | | | | | |
| R87F-A6A85LP | 230 | | | 0.040 | 0.040 | | | | | | | | | | | |

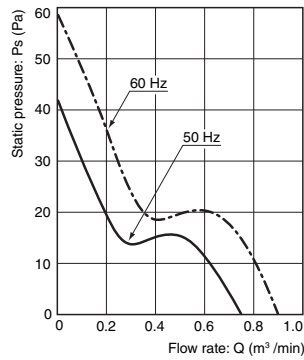
■ Characteristics

| | |
|-------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Terminals |
| Insulation class | IEC class B (130°C) UL class A (105°C) CSA class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -30 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Impedance protection |
| Materials | Frame: Die-cast aluminum Blades: Glass polycarbonate |
| Bearings | Ball bearings |
| Weight | 280 g |
| Compliant standards | PSE, EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL/CSA (pending) |

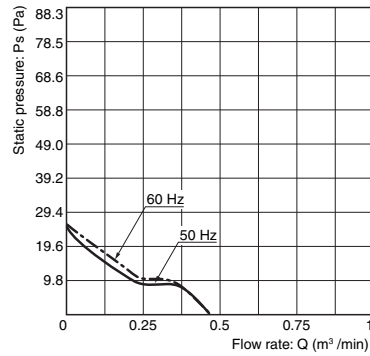
R87F-A□A85

■ Flow Rate and Static Pressure Characteristics (Reference Values)

R87F-A□A85HP

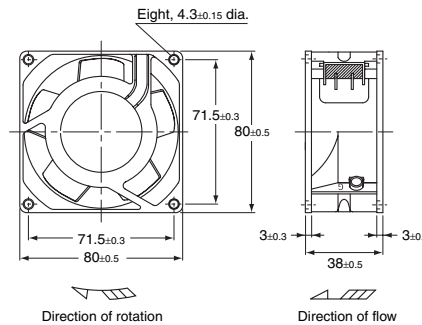


R87F-A□A85LP

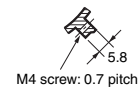


Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Screw hole for grounding

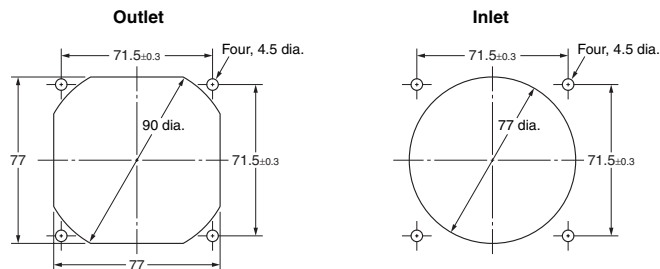


Terminal shape



Faston #110 terminal (or equivalent)

Panel Cutouts



Options

| Name | Model | Datasheet available |
|--------------|-----------|---------------------|
| Plug Cord | R87F-PC | Refer to page 37. |
| Finger Guard | R87F-FG80 | Refer to page 38. |
| Filter | R87F-FL80 | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Lead Wires (80 × 80 × t25 mm)

R87F-A□A83

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|--------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| Model | | | | | | | | | | | | | | | | |
| R87F-A1A83H | 100 | 85% to 110% rated voltage | 50/60 | 0.097 | 0.080 | 7 | 6 | 2,600 | 3,000 | 0.6 | 0.7 | 39.2 | 53.9 | 32 | 36 | |
| R87F-A3A83H | 115 | | | 0.085 | 0.070 | | | | | | | | | | | |
| R87F-A4A83H | 200 | | | 0.048 | 0.041 | | | | | | | | | | | |
| R87F-A6A83H | 230 | | | 0.046 | 0.039 | | | | | | | | | | | |
| R87F-A1A83L | 100 | 85% to 110% rated voltage | 50/60 | 0.063 | 0.055 | 5 | 4 | 1,900 | 2,100 | 0.4 | 0.5 | 19.5 | 23.5 | 28 | 30 | |
| R87F-A3A83L | 115 | | | 0.055 | 0.048 | | | | | | | | | | | |
| R87F-A4A83L | 200 | | | 0.033 | 0.030 | | | | | | | | | | | |
| R87F-A6A83L | 230 | | | 0.028 | 0.024 | | | | | | | | | | | |

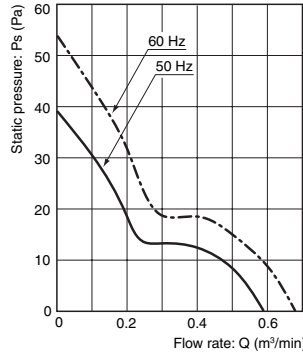
■ Characteristics

| | |
|--------------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Lead wires |
| Insulation class | IEC class B (130°C) UL class A (105°C) CSA class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -30 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Impedance protection |
| Materials | Frame: Die-cast aluminum Blades: Glass polycarbonate |
| Bearings | Ball bearings |
| Weight | 230 g |
| Compliant standards | EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL/CSA (pending) |

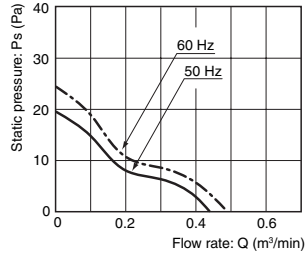
R87F-A□A83

■ Flow Rate and Static Pressure Characteristics (Reference Values)

R87F-A□A83H

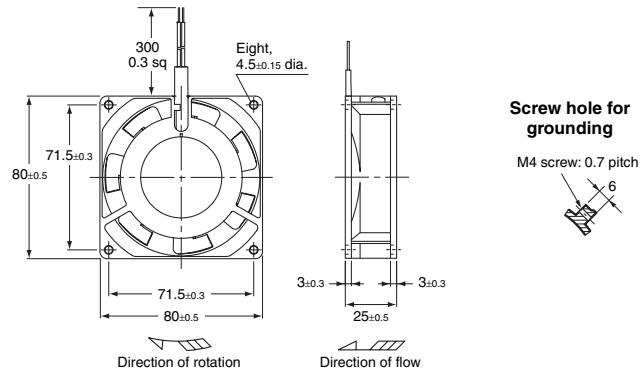
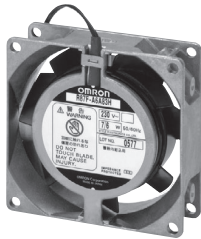


R87F-A□A83L

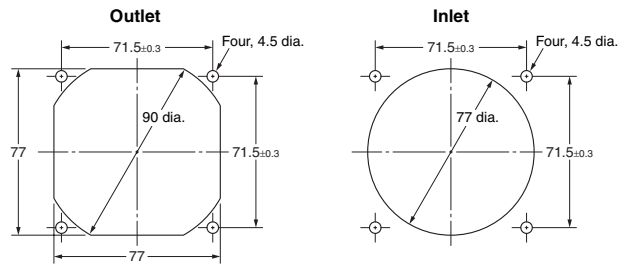


Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Panel Cutouts



Options

| Names | Model | Datasheet available |
|--------------|-----------|---------------------|
| Finger Guard | R87F-FG80 | Refer to page 38. |
| Filter | R87F-FL80 | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Water-resistant AC Axial-flow Fans with Lead Wires (120 × 120 × t38 mm)

R87T-A□A15H-WR

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

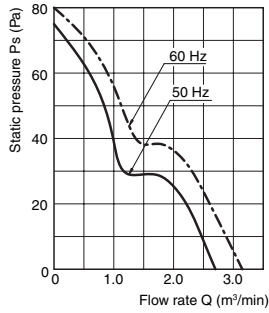
| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | |
|----------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| Model | | | | | | | | | | | | | | | |
| R87T-A1A15H-WR | 100 | 85% to 110% rated voltage | 50/60 | 0.350 | 0.280 | 22 | 20 | 2,550 | 2,900 | 2.7 | 3.2 | 75.0 | 80.0 | 42 | 46 |
| R87T-A3A15H-WR | 115 | | | 0.300 | 0.240 | | | | | | | | | | |
| R87T-A4A15H-WR | 200 | | | 0.170 | 0.135 | | | | | | | | | | |
| R87T-A6A15H-WR | 200 to 230 | | | 0.145 | 0.115 | 15 to 22 | | | | | | | | | |

■ Characteristics

| | | |
|-------------------------------|--|------------------------------------|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) | |
| Terminal type | Lead wires | |
| Insulation class | IEC class B (130°C) UL class A (105°C) CSA class A (105°C) | |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. | |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. | |
| Degree of protection | IP X7 | |
| Ambient operating temperature | -20 to 70°C (no icing) | |
| Ambient storage temperature | -40 to 85°C (no icing) | |
| Ambient humidity | 95% RH max. | |
| Protection | Impedance protection | |
| Materials | Frame | Die-cast aluminum Black coating |
| | Blades | Steel plate (black coating) |
| Bearings | Ball bearings | |
| Weight | 650 g max. | |
| Standards | EN/IEC 60335 (CE marking compliant) | |
| Certified standards | cUL (pending) | |

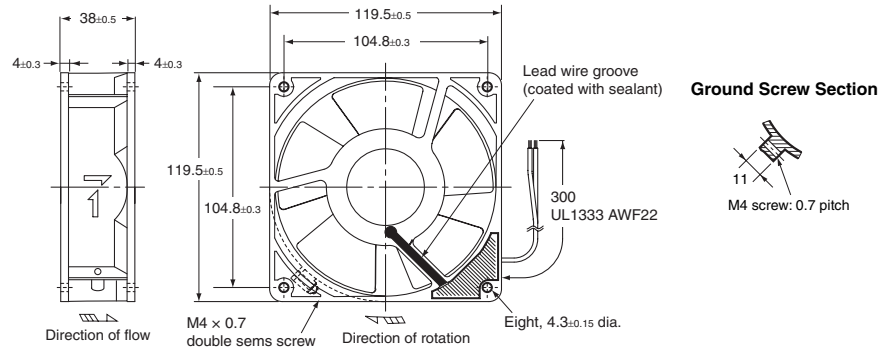
R87T-A□A15H-WR

■ Flow Rate and Static Pressure Characteristics (Reference Values)

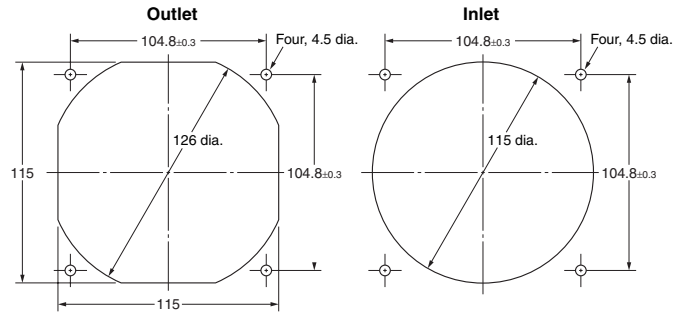


Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Panel Cutouts



Options

| Name | Model | Page number |
|--------------|---------------|-------------------|
| Finger Guard | R87F-FG120 | Refer to page 38. |
| Filter | R87F-FL120(S) | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Lead Wires (150-dia. × t55 mm)

R87T-A□A07

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|-------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| Model | | | | | | | | | | | | | | | | |
| R87T-A1A07H | 100 | 85% to 110% rated voltage | 50/60 | 0.480 | 0.420 | 43 | 40 | 2,800 | 3,250 | 5.0 | 5.8 | 118 | 88 | 52 | 56 | |
| R87T-A3A07H | 115 | | | 0.420 | 0.370 | | | | | | | | | | | |
| R87T-A4A07H | 200 | | | 0.240 | 0.210 | | | | | | | | | | | |
| R87T-A6A07H | 230 | | | 0.210 | 0.190 | | | | | | | | | | | |

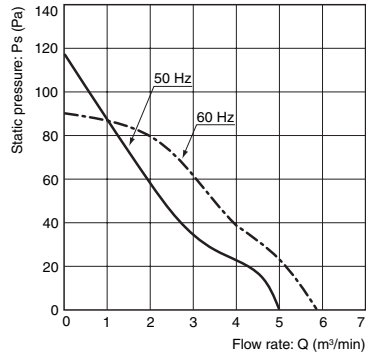
■ Characteristics

| | |
|-------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Lead wires |
| Insulation class | IEC class B (130°C) UL class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -20 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Thermal protection |
| Materials | Frame: Die-cast aluminum Blades: Steel plate (black coating) |
| Bearings | Ball bearings |
| Weight | 1,200 g |
| Compliant standards | EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL |

R87T-A□A07

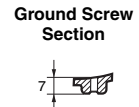
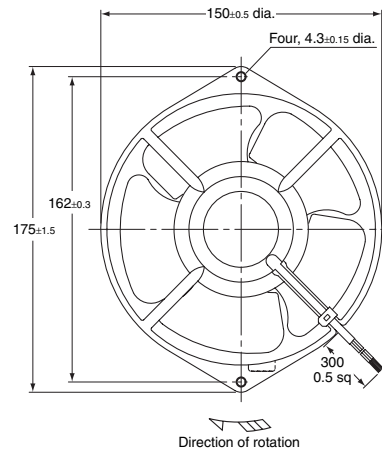
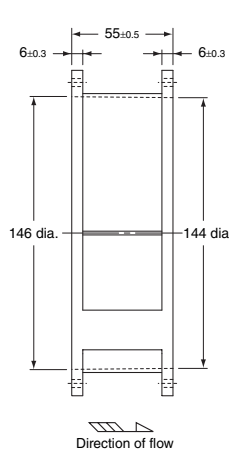
■ Flow Rate and Static Pressure Characteristics (Reference Value)

R87T-A□A07H



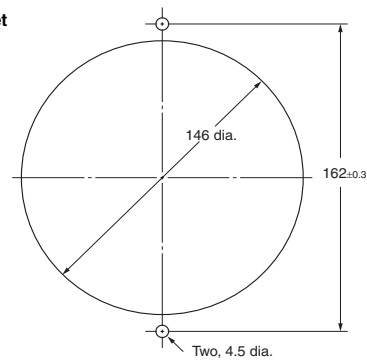
Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Panel Cutouts

Outlet and Inlet



Options

| Name | Model | Datasheet available |
|--------------|------------|---------------------|
| Finger Guard | R87F-FG150 | Refer to page 38. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Lead Wires (150-dia. × t38 mm)

R87T-A□A05

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|-------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| Model | | | | | | | | | | | | | | | | |
| R87T-A1A05H | 100 | 85% to 110% rated voltage | 50/60 | 0.550 | 0.460 | 50 | 48 | 2,650 | 3,100 | 4.8 | 5.7 | 104 | 107 | 56 | 58 | |
| R87T-A3A05H | 115 | | | 0.470 | 0.390 | | | | | | | | | | | |
| R87T-A4A05H | 200 | | | 0.260 | 0.220 | | | | | | | | | | | |
| R87T-A6A05H | 230 | | | 0.220 | 0.190 | | | | | | | | | | | |

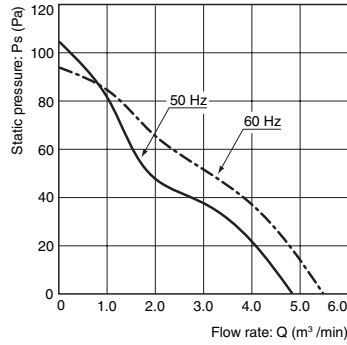
■ Characteristics

| | |
|-------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Lead wires |
| Insulation class | IEC class B (130°C) UL class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -20 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Thermal protection |
| Materials | Frame: Die-cast aluminum Blades: Steel plate (mat black baked coating) |
| Bearings | Ball bearings |
| Weight | 840 g |
| Compliant standards | EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL |

R87T-A□A05

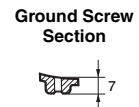
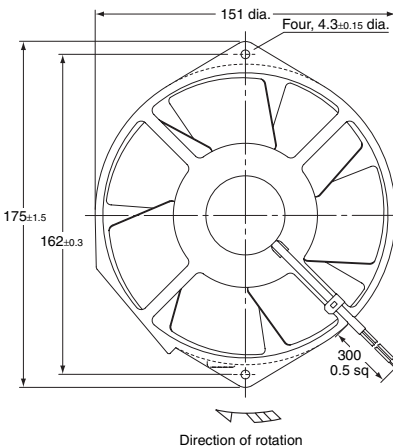
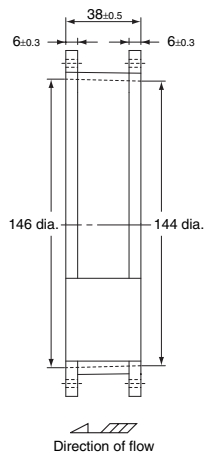
■ Flow Rate and Static Pressure Characteristics (Reference Value)

R87T-A□A05H



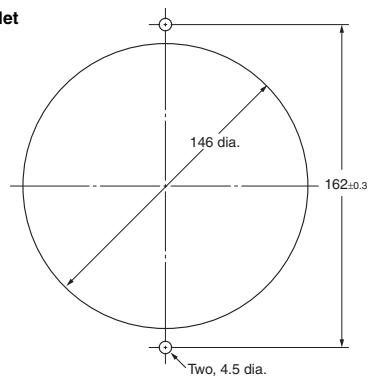
Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Panel Cutouts

Outlet and Inlet



Options

| Name | Model | Datasheet available |
|--------------|------------|---------------------|
| Finger Guard | R87F-FG150 | Refer to page 38. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Terminals (120 × 120 × t38 mm)

R87T-A□A15

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | | |
|--------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | | |
| R87T-A1A15HP | 100 | 85% to 110% rated voltage | 50/60 | 0.250 | 0.210 | 20 | 18 | 2,700 | 3,100 | 2.6 | 3.0 | 66.6 | 58.8 | 42 | 46 | | |
| R87T-A3A15HP | 115 | | | 0.215 | 0.190 | | | | | | | | | | | | |
| R87T-A4A15HP | 200 | | | 0.130 | 0.110 | | | | | | | | | | | | |
| R87T-A6A15HP | 230 | | | 0.105 | 0.095 | | | | | | | | | | | | |
| R87T-A1A15MP | 100 | 85% to 110% rated voltage | 50/60 | 0.240 | 0.200 | 16 | 14 | 2,350 | 2,750 | 1.7 | 2.0 | 36.7 | 37.3 | 36 | 40 | | |
| R87T-A3A15MP | 115 | | | 0.200 | 0.170 | | | | | | | | | | | | |
| R87T-A4A15MP | 200 | | | 0.120 | 0.100 | | | | | | | | | | | | |
| R87T-A6A15MP | 230 | | | 0.100 | 0.085 | | | | | | | | | | | | |

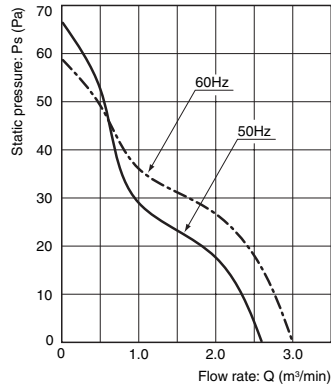
■ Characteristics

| | |
|-------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Terminals |
| Insulation class | IEC class B (130°C) UL class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -20 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Impedance protection |
| Materials | Frame: Die-cast aluminum Blades: Steel plate (black coating) |
| Bearings | Ball bearings |
| Weight | 570 g |
| Compliant standards | PSE, EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL |

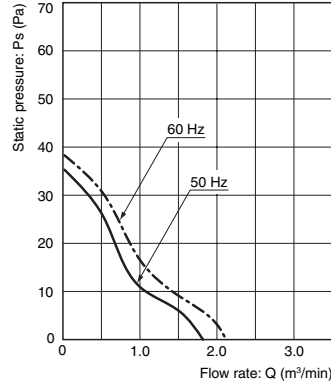
R87T-A□A15

■ Flow Rate and Static Pressure Characteristics (Reference Values)

R87T-A□A15HP

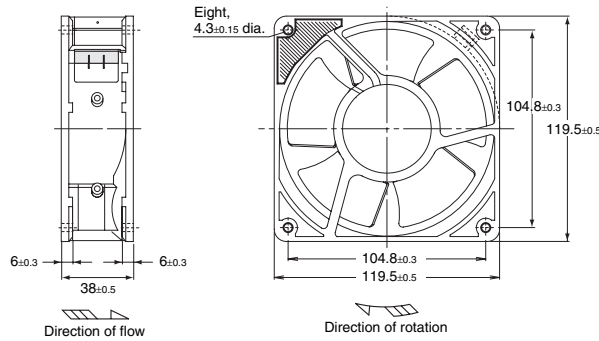


R87T-A□A15MP



Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Screw hole for grounding



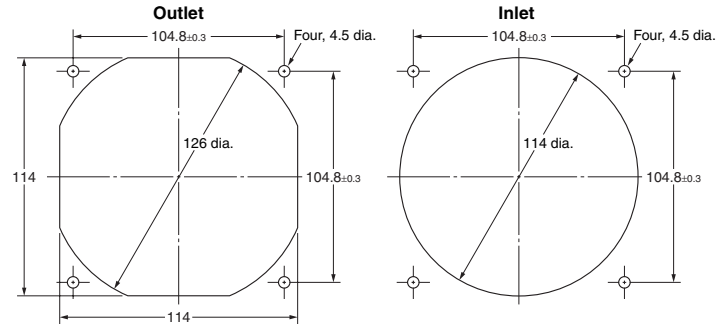
M4 screw: 0.7 pitch

Terminal shape



Faston #110 terminal (or equivalent)

Panel Cutouts



Options

| Name | Model | Datasheet available |
|--------------|---------------|---------------------|
| Plug Cord | R87F-PC | Refer to page 37. |
| Finger Guard | R87F-FG120 | Refer to page 38. |
| Filter | R87F-FL120(S) | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Lead Wires (80 × 80 × t38 mm)

R87T-A□A85

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|-------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| Model | | | | | | | | | | | | | | | | |
| R87T-A1A85H | 100 | 85% to 110% rated voltage | 50/60 | 0.180 | 0.160 | 12 | 10 | 2,800 | 3,300 | 0.80 | 0.90 | 42 | 58 | 37 | 40 | |
| R87T-A3A85H | 115 | | | 0.155 | 0.135 | | | | | | | | | | | |
| R87T-A4A85H | 200 | | | 0.085 | 0.075 | | | | | | | | | | | |
| R87T-A6A85H | 230 | | | 0.080 | 0.070 | | | | | | | | | | | |

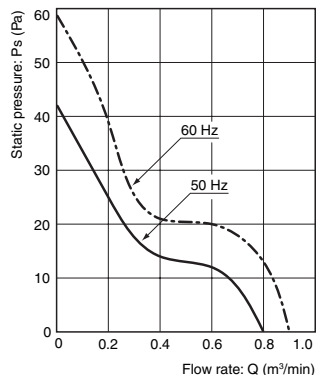
■ Characteristics

| | |
|-------------------------------|--|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) |
| Terminal type | Lead wires |
| Insulation class | IEC class B (130°C) UL class A (105°C) |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. |
| Ambient operating temperature | -20 to 70°C (no icing) |
| Ambient storage temperature | -40 to 85°C (no icing) |
| Ambient humidity | 25% to 85% |
| Protection | Impedance protection |
| Materials | Frame: Die-cast aluminum Blades: Steel plate (black coating) |
| Bearings | Ball bearings |
| Weight | 440 g |
| Compliant standards | EN/IEC 60335 (CE marking compliant) |
| Certified standards | UL |

R87T-A□A85

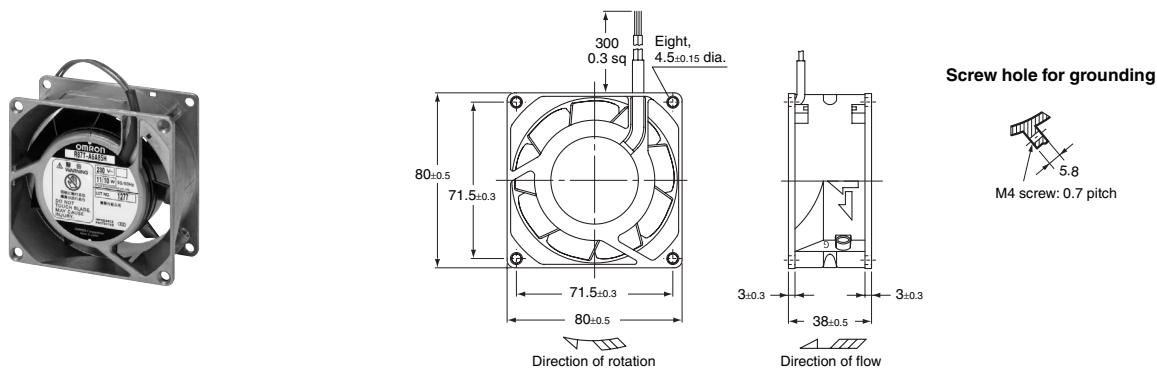
■ Flow Rate and Static Pressure Characteristics (Reference Values)

R87T-A□A85H

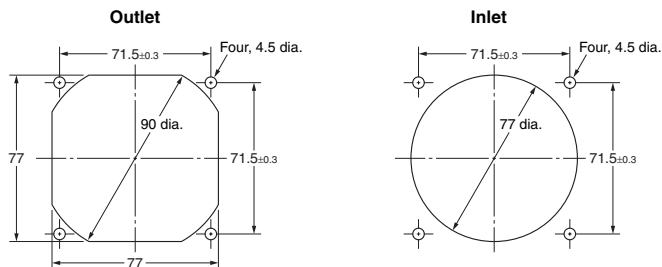


Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Panel Cutouts



Options

| Name | Model | Datasheet available |
|--------------|-----------|---------------------|
| Plug Cord | R87F-PC | Refer to page 37. |
| Finger Guard | R87F-FG80 | Refer to page 38. |
| Filter | R87F-FL80 | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

AC Axial-flow Fans with Lead Wires (80 × 80 × t25 mm)

R87T-A□A83

Specifications

■ Ratings and Ordering Information

Note: An asterisk indicates a nominal value.

| Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated current (A)* | | Rated input (W)* | | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | |
|-------------|-------------------|---|----------------|--------------------|-------|------------------|-------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|--|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| Model | | | | | | | | | | | | | | | | |
| R87T-A1A83H | 100 | 85% to 110% rated voltage | 50/60 | 0.180 | 0.150 | 12 | 11 | 2,500 | 3,000 | 0.5 | 0.6 | 34.0 | 49.0 | 33 | 36 | |
| R87T-A3A83H | 115 | | | 0.150 | 0.130 | | | | | | | | | | | |
| R87T-A4A83H | 200 | | | 0.087 | 0.075 | | | | | | | | | | | |
| R87T-A6A83H | 230 | | | 0.075 | 0.065 | | | | | | | | | | | |

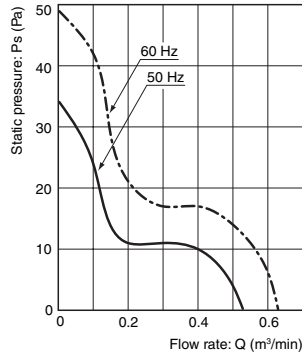
■ Characteristics

| | | |
|--------------------------------------|--|-----------------------------|
| Motor type | Single-phase shading coil induction motor (2-pole, open type) | |
| Terminal type | Lead wires | |
| Insulation class | IEC class B (130°C) UL class A (105°C) | |
| Insulation resistance | 100 MΩ min. (at 500 VDC) between all power supply connections and uncharged metal parts. | |
| Insulation withstand voltage | 2,000 VAC (1 minute) between all power supply connections and uncharged metal parts. | |
| Ambient operating temperature | -20 to 70°C (no icing) | |
| Ambient storage temperature | -40 to 85°C (no icing) | |
| Ambient humidity | 25% to 85% | |
| Protection | Impedance protection | |
| Materials | Frame | Die-cast aluminum |
| | Blades | Steel plate (black coating) |
| Bearings | Ball bearings | |
| Weight | 330 g max. | |
| Standards | EN/IEC 60335 (CE marking compliant) | |
| Certified standards | UL (pending) | |

R87T-A□A83

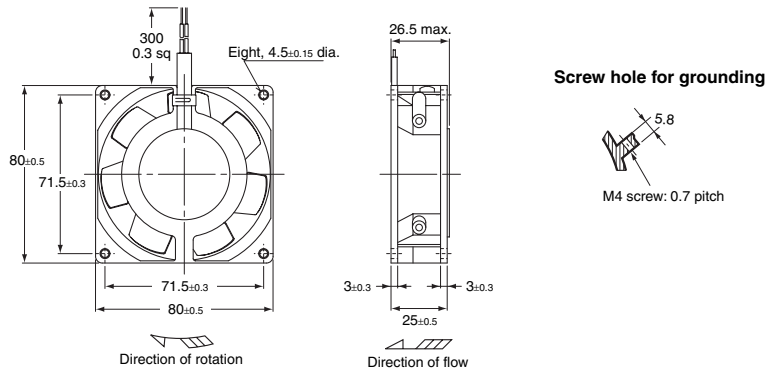
■ Flow Rate and Static Pressure Characteristics (Reference Values)

R87T-A□A83H

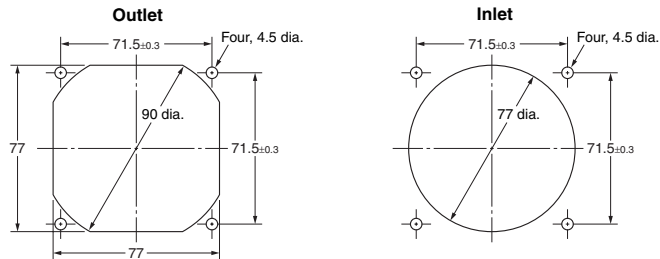


Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 10.

Dimensions



Panel Cutouts



Options

| Name | Model | Datasheet available |
|--------------|-----------|---------------------|
| Finger Guard | R87F-FG80 | Refer to page 38. |
| Filter | R87F-FL80 | Refer to page 39. |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Plug Cord R87F-PC

Accessories (Order Separately)

Available Models

| Cord length | Model number | Weight (g) |
|-------------|--------------|------------|
| 1 m | R87F-PC | 39 |
| 2 m | R87F-PC-20 | 69 |

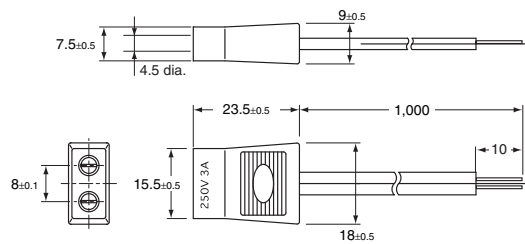
R87F-PC Rating: 250 VAC, 3 A

UL-certified Plug Cord (Pending)



Dimensions

R87F-PC



Connectable to Faston #110 terminals (or equivalent).

Note: This Plug Cord is used for Axial-flow Fans with terminals.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Accessories (Order Separately)

Available Models

| Size | Model number | Weight (g) |
|-----------|--------------|------------|
| 150 dia. | R87F-FG150 | 58 |
| 120 × 120 | R87F-FG120 | 45 |
| 92 × 92 | R87F-FG90 | 25 |
| 80 × 80 | R87F-FG80 | 20 |

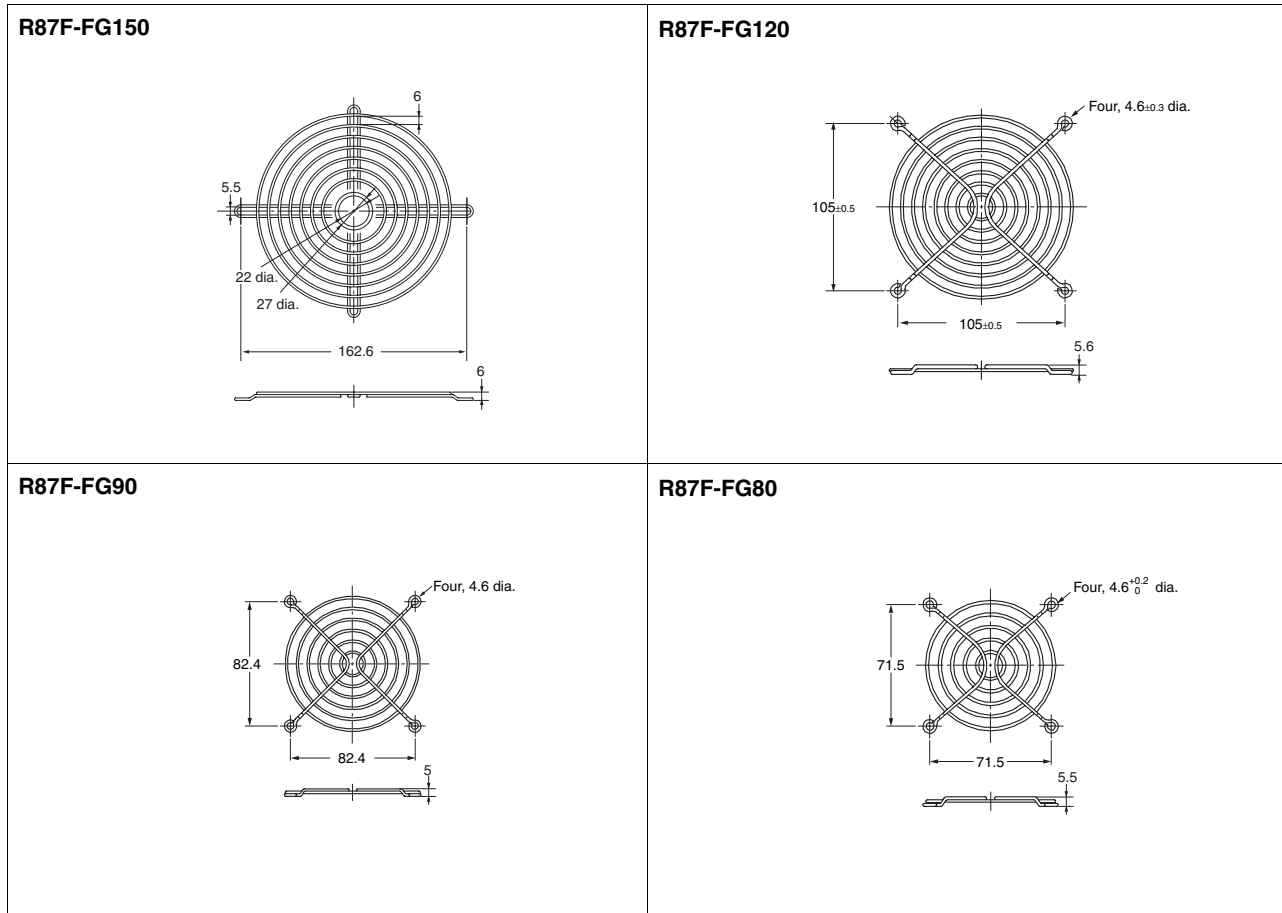
Applicable Axial-flow Fans

| AC Axial-flow Fan | | Finger Guard |
|-------------------|--------------------------------------|--------------|
| Size | Model | |
| 150 dia. | R87F-A□A0 Series | R87F-FG150 |
| 120 × 120 | R87F-A□A1 Series R87T-A□A1 Series | R87F-FG120 |
| 92 × 92 | R87F-A□A9 Series | R87F-FG90 |
| 80 × 80 | R87F-A□A8 Series R87T-A□A8 Series | R87F-FG80 |

Note: Finger Guards reduce the flow rate by approximately 2% to 5%.

Dimensions

Material: steel, Joints: spot welded, Surface: nickel-chrome plated



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Accessories (Order Separately)

Available Models

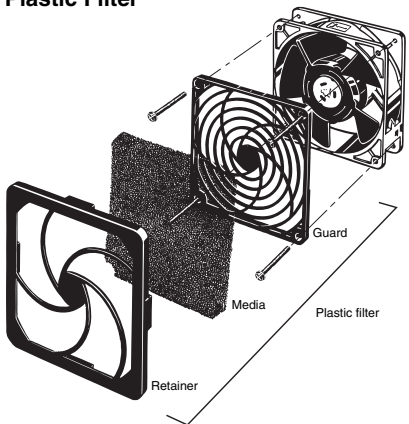
| Size | Model number | Weight (g) |
|-----------|--------------|------------|
| 120 × 120 | R87F-FL120 | 42 |
| 92 × 92 | R87F-FL90 | 30 |
| 80 × 80 | R87F-FL80 | 21 |
| 120 × 120 | R87F-FL120S | 25 |

Applicable Axial-flow Fans

| AC Axial-flow Fan | | Filter | |
|-------------------|--------------------------------------|------------|-------------|
| Size | Model | Plastic | Aluminum |
| 150 dia. | R87T-A□A0 Series | --- | --- |
| 120 × 120 | R87F-A□A1 Series R87T-A□A1 Series | R87F-FL120 | R87F-FL120S |
| 92 × 92 | R87F-A□A9 Series | R87F-FL90 | --- |
| 80 × 80 | R87F-A□A8 Series R87T-A□A8 Series | R87F-FL80 | --- |

Note: Filters reduce the flow rate by approximately 20% to 40%. Ensure that there is no clogging.

R87F-FL□
Plastic Filter

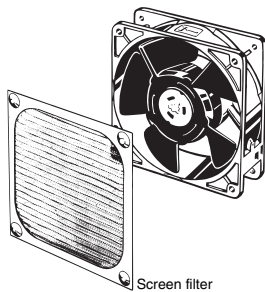


Mounting Method

1. Attach the guard to the Fan using the mounting bolts. (There are no mounting bolts provided with the Plastic Filter.)
2. With the media held between the retainer and the guard, hook the retainer to the guard. (The Media and retainer can be one-touch mounted/dismounted.)

Note: Use the following model number to order the Media only.
R87F-FL□-M□ (□: 120, 90, or 80)
(One set containing five Media, weight: 5 g max.)

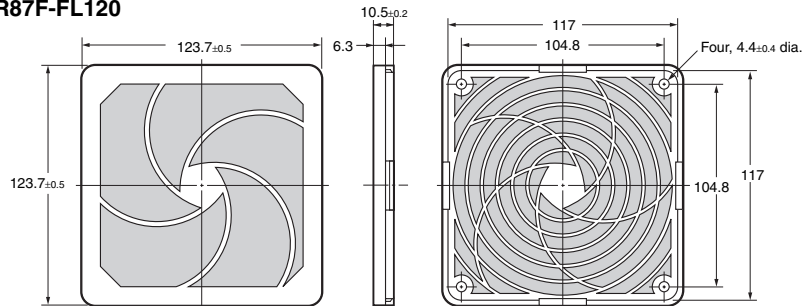
R87F-FL120S
Screen Filter



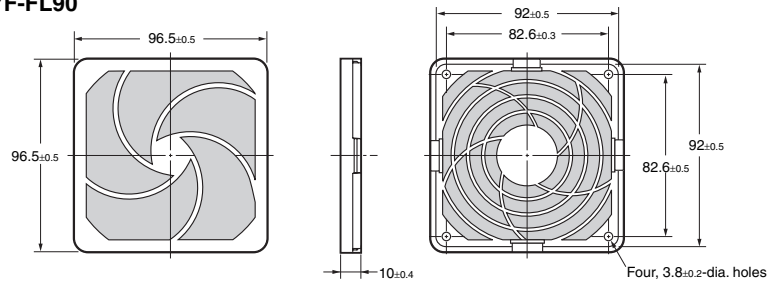
Dimensions

(Unit: mm)

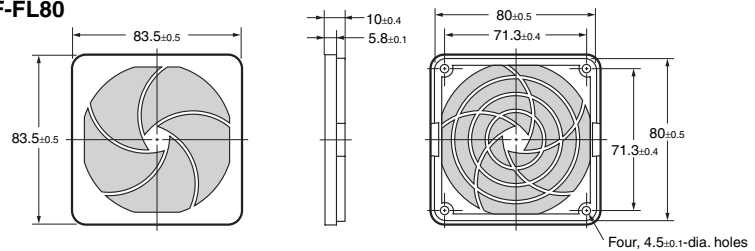
R87F-FL120



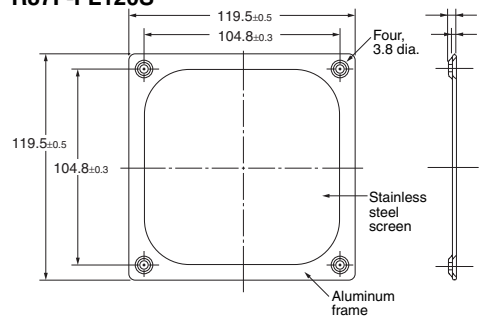
R87F-FL90



R87F-FL80



R87F-FL120S



- Note:**
1. The Screen Filter is made using aluminium and has an **EMI/RFI** shielding effect.
 2. When mounting the Screen Filter, make sure that it does not come in contact with the fan blades.
 3. The screen is a 30 × 30 aluminium mesh.


ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Box Fan R87B

Comprehensive Lineup of Single, Double, and Triple Axial-flow Fans with Easy One-step Mounting

- Mounts in a square cutout and conceals the hole-cut to simplify installation work.
- Cover can be set to open either upward or downward for convenience in confined spaces.
- Enhanced accessories (finger guard, filter, plug cord, mounting screws).
- Optional Replacement Filter and Vent Attachment.
- The lineup includes Single, Double, and Triple Box Fans with eight models with plastic blades and eight models with metal blades.

 Refer to *Safety Precautions for All Axial-flow Fans* on page 8.



Model Number Structure

Model Number Legend

R87B-□□□A15□PF□□
 1 2 3 4 5

Attachment

R87B-N□
 1 5

Options and Accessories

R87B-P□□□
 1 6 7

| Number | Category | Symbol | Meaning of symbol |
|--------|-----------------------------|--------|---|
| 1 | Fan (blade material) | F | R87F Axial-flow Fan (with plastic blades) |
| | | T | R87T Axial-flow Fan (with metal blades) |
| | | N | No fan |
| | Optional parts | P | Options and accessories |
| 2 | Power supply classification | A1 | 100 VAC |
| | | A3 | 115 VAC |
| | | A4 | 200 VAC |
| | | A6 | 230 VAC |
| 3 | Speed classification | H | High speed |
| | | M | Middle speed |
| | | L | Low speed |
| 4 | Airflow direction | None | In |
| | | R | Out |
| 5 | Number of fans | None | 1 |
| | | 2 | 2 |
| | | 3 | 3 |
| 6 | Part type | F | Filter |
| 7 | Reference number | 01 | --- |

Note: These tables show only how to read model numbers. They do not indicate which products are available. Refer to *Ratings and Ordering Information* when placing an order.

Ordering Information

| Type | Number of fans | Model | Accessories |
|------------------------------|----------------|--------------------|---|
| Plastic blades High speed | 1 | R87B-FA□A15HPF(R) | Filter Finger guard Plug cord Mounting bolts |
| | 2 | R87B-FA□A15HPF(R)2 | |
| | 3 | R87B-FA□A15HPF(R)3 | |
| Plastic blades Low speed | 1 | R87B-FA□A15LPF(R) | Filter Finger guard Plug cord Mounting bolts |
| | 2 | R87B-FA□A15LPF(R)2 | |
| | 3 | R87B-FA□A15LPF(R)3 | |
| Metal blades High speed | 1 | R87B-TA□A15HPF(R) | Filter Finger guard Plug cord Mounting bolts |
| | 2 | R87B-TA□A15HPF(R)2 | |
| | 3 | R87B-TA□A15HPF(R)3 | |
| Metal blades Medium speed | 1 | R87B-TA□A15MPF(R) | Filter Finger guard Plug cord Mounting bolts |
| | 2 | R87B-TA□A15MPF(R)2 | |
| | 3 | R87B-TA□A15MPF(R)3 | |
| Attachment | For 1 | R87B-N | Filter Finger guard Mounting screws |
| | For 2 | R87B-N2 | |
| | For 3 | R87B-N3 | |
| Replacement Filter | Any | R87B-PF01 | Set of two filters |

R87B

Ratings and Ordering Information

| Item | Model | R87B-F | R87B-T |
|-------------------------------|--------|--|---|
| Motor type | | Single-phase shading coil induction motor (2-pole, open type) | |
| Terminal type | | Terminals | |
| Insulation class | | IEC class B (130°C) UL class A (105°C) CSA class A (105°C) | IEC class B (130°C) UL class A (105°C) |
| Insulation resistance | | 100 MΩ min. (at 500 VDC) Between all power supply connection parts and non-current carrying metal parts | |
| Dielectric strength | | 2,000 VAC for 1 min Between all power supply connection parts and non-current carrying metal parts | |
| Ambient operating temperature | | -30 to 70°C (with no icing) | -20 to 70°C (with no icing) |
| Storage temperature | | -40 to 85°C (with no icing) | |
| Ambient humidity | | 25% to 85% | |
| Protection | | Impedance protection | |
| Materials | Frame | Die-cast aluminum | |
| | Blades | Glass polycarbonate | Steel plate (black coating) |
| External color | | Light gray (Munsell 5Y7/1) | |
| Bearings | | Ball bearings | |
| Compliant standards | | PSE, EN/IEC 60335 (CE self-declaration) | |
| Certified standards | | UL/CSA (pending) | UL (pending) |

Note: The rated current is the total for all fans.

Safety Precautions

Refer to *Safety Precautions for All Axial-flow Fans* on page 8.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Single Box Fan

R87B-□A□A15□PF(R)

Ratings and Ordering Information

Airflow Direction: In

| Item Model | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | Weight (g) |
|----------------|-------------------|---|----------------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|------------|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| R87B-FA1A15HPF | 100 | 85% to 110% rated voltage | 50/60 | 2,700 | 3,100 | 1.3 | 1.5 | 91 | 85 | 49 | 52 | 1,120 |
| R87B-FA3A15HPF | 115 | | | | | | | | | | | |
| R87B-FA4A15HPF | 200 | | | | | | | | | | | |
| R87B-FA6A15HPF | 230 | | | | | | | | | | | |
| R87B-FA1A15LPF | 100 | 85% to 110% rated voltage | 50/60 | 2,100 | 2,200 | 0.9 | 1.0 | 43 | 42 | 42 | 43 | 1,150 |
| R87B-FA3A15LPF | 115 | | | | | | | | | | | |
| R87B-FA4A15LPF | 200 | | | | | | | | | | | |
| R87B-FA6A15LPF | 230 | | | | | | | | | | | |
| R87B-TA1A15HPF | 100 | 85% to 110% rated voltage | 50/60 | 2,650 | 3,000 | 1.1 | 1.3 | 67 | 63 | 45 | 48 | 1,150 |
| R87B-TA3A15HPF | 115 | | | | | | | | | | | |
| R87B-TA4A15HPF | 200 | | | | | | | | | | | |
| R87B-TA6A15HPF | 230 | | | | | | | | | | | |
| R87B-TA1A15MPF | 100 | 85% to 110% rated voltage | 50/60 | 2,300 | 2,600 | 0.8 | 1.0 | 41 | 45 | 41 | 44 | 1,150 |
| R87B-TA3A15MPF | 115 | | | | | | | | | | | |
| R87B-TA4A15MPF | 200 | | | | | | | | | | | |
| R87B-TA6A15MPF | 230 | | | | | | | | | | | |

Note: An asterisk (*) indicates a nominal value.

Airflow Direction: Out

| Item Model | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | Weight (g) |
|-----------------|-------------------|---|----------------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|------------|
| | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| R87B-FA1A15HPFR | 100 | 85% to 110% rated voltage | 50/60 | 2,700 | 3,100 | 1.3 | 1.5 | 91 | 85 | 49 | 52 | 1,120 |
| R87B-FA3A15HPFR | 115 | | | | | | | | | | | |
| R87B-FA4A15HPFR | 200 | | | | | | | | | | | |
| R87B-FA6A15HPFR | 230 | | | | | | | | | | | |
| R87B-FA1A15LPFR | 100 | 85% to 110% rated voltage | 50/60 | 2,100 | 2,200 | 0.9 | 1.0 | 43 | 42 | 42 | 43 | 1,150 |
| R87B-FA3A15LPFR | 115 | | | | | | | | | | | |
| R87B-FA4A15LPFR | 200 | | | | | | | | | | | |
| R87B-FA6A15LPFR | 230 | | | | | | | | | | | |
| R87B-TA1A15HPFR | 100 | 85% to 110% rated voltage | 50/60 | 2,650 | 3,000 | 1.1 | 1.3 | 67 | 63 | 45 | 48 | 1,150 |
| R87B-TA3A15HPFR | 115 | | | | | | | | | | | |
| R87B-TA4A15HPFR | 200 | | | | | | | | | | | |
| R87B-TA6A15HPFR | 230 | | | | | | | | | | | |
| R87B-TA1A15MPFR | 100 | 85% to 110% rated voltage | 50/60 | 2,300 | 2,600 | 0.8 | 1.0 | 41 | 45 | 41 | 44 | 1,150 |
| R87B-TA3A15MPFR | 115 | | | | | | | | | | | |
| R87B-TA4A15MPFR | 200 | | | | | | | | | | | |
| R87B-TA6A15MPFR | 230 | | | | | | | | | | | |

Note: An asterisk (*) indicates a nominal value.

- The data in this table comes from measurements that were taken with the filter and cover attached.
- The model number of the AC Axial-flow Fan in the Box Fan can be determined from the model number of the Box Fan as follows:

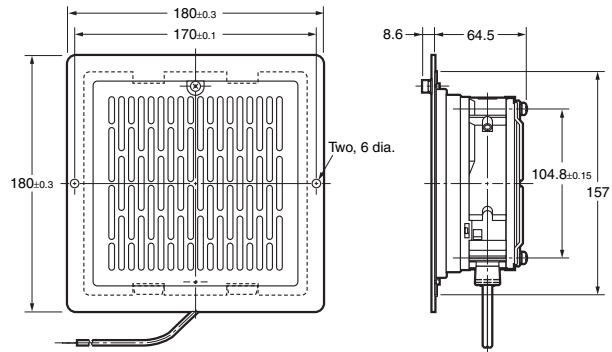
R87B-FA1A15HPF → R87F-A1A15HP

The model number of the Axial-flow Fan can be determined by extracting the underlined portions from the model number of the Box Fan as shown.

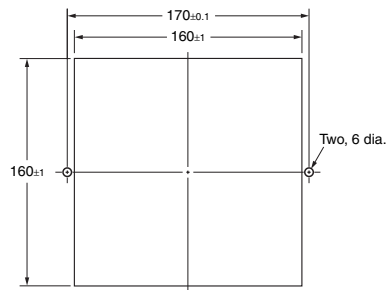
R87B-□A□A15□PF(R)

Dimensions

Note: All units are in millimeters unless otherwise indicated.



Panel Cutout Dimensions



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Double Box Fan

R87B-□A□A15□PF(R)2

Ratings and Ordering Information

Airflow Direction: In

| Model | Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | Weight (g) |
|-----------------|------|-------------------|---|----------------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|------------|
| | | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| R87B-FA1A15HPF2 | | 100 | 85% to 110% rated voltage | 50/60 | 2,700 | 3,100 | 2.6 | 3.0 | 86 | 48 | 55 | 56 | 2,220 |
| R87B-FA3A15HPF2 | | 115 | | | | | | | | | | | |
| R87B-FA4A15HPF2 | | 200 | | | | | | | | | | | |
| R87B-FA6A15HPF2 | | 230 | | | | | | | | | | | |
| R87B-FA1A15LPF2 | | 100 | 85% to 110% rated voltage | 50/60 | 2,100 | 2,200 | 2.0 | 2.1 | 47 | 44 | 45 | 46 | |
| R87B-FA3A15LPF2 | | 115 | | | | | | | | | | | |
| R87B-FA4A15LPF2 | | 200 | | | | | | | | | | | |
| R87B-FA6A15LPF2 | | 230 | | | | | | | | | | | |
| R87B-TA1A15HPF2 | | 100 | 85% to 110% rated voltage | 50/60 | 2,650 | 3,000 | 2.4 | 2.7 | 68 | 63 | 49 | 52 | 2,260 |
| R87B-TA3A15HPF2 | | 115 | | | | | | | | | | | |
| R87B-TA4A15HPF2 | | 200 | | | | | | | | | | | |
| R87B-TA6A15HPF2 | | 230 | | | | | | | | | | | |
| R87B-TA1A15MPF2 | | 100 | 85% to 110% rated voltage | 50/60 | 2,300 | 2,600 | 1.6 | 1.9 | 41 | 43 | 44 | 47 | |
| R87B-TA3A15MPF2 | | 115 | | | | | | | | | | | |
| R87B-TA4A15MPF2 | | 200 | | | | | | | | | | | |
| R87B-TA6A15MPF2 | | 230 | | | | | | | | | | | |

Note: An asterisk (*) indicates a nominal value.

Airflow Direction: Out

| Model | Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | Weight (g) |
|------------------|------|-------------------|---|----------------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|------------|
| | | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| R87B-FA1A15HPFR2 | | 100 | 85% to 110% rated voltage | 50/60 | 2,700 | 3,100 | 2.6 | 3.0 | 86 | 48 | 55 | 56 | 2,220 |
| R87B-FA3A15HPFR2 | | 115 | | | | | | | | | | | |
| R87B-FA4A15HPFR2 | | 200 | | | | | | | | | | | |
| R87B-FA6A15HPFR2 | | 230 | | | | | | | | | | | |
| R87B-FA1A15LPFR2 | | 100 | 85% to 110% rated voltage | 50/60 | 2,100 | 2,200 | 2.0 | 2.1 | 47 | 44 | 45 | 46 | |
| R87B-FA3A15LPFR2 | | 115 | | | | | | | | | | | |
| R87B-FA4A15LPFR2 | | 200 | | | | | | | | | | | |
| R87B-FA6A15LPFR2 | | 230 | | | | | | | | | | | |
| R87B-TA1A15HPFR2 | | 100 | 85% to 110% rated voltage | 50/60 | 2,650 | 3,000 | 2.4 | 2.7 | 68 | 63 | 49 | 52 | 2,260 |
| R87B-TA3A15HPFR2 | | 115 | | | | | | | | | | | |
| R87B-TA4A15HPFR2 | | 200 | | | | | | | | | | | |
| R87B-TA6A15HPFR2 | | 230 | | | | | | | | | | | |
| R87B-TA1A15MPFR2 | | 100 | 85% to 110% rated voltage | 50/60 | 2,300 | 2,600 | 1.6 | 1.9 | 41 | 43 | 44 | 47 | |
| R87B-TA3A15MPFR2 | | 115 | | | | | | | | | | | |
| R87B-TA4A15MPFR2 | | 200 | | | | | | | | | | | |
| R87B-TA6A15MPFR2 | | 230 | | | | | | | | | | | |

Note: An asterisk (*) indicates a nominal value.

- The data in this table comes from measurements that were taken with the filter and cover attached.
- The model number of the AC Axial-flow Fan in the Box Fan can be determined from the model number of the Box Fan as follows:

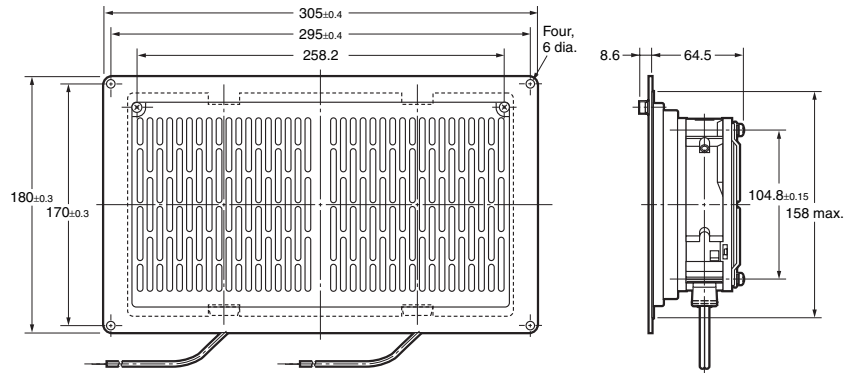
R87B-FA1A15HPF→R87F-A1A15HP

The model number of the Axial-flow Fan can be determined by extracting the underlined portions from the model number of the Box Fan as shown.

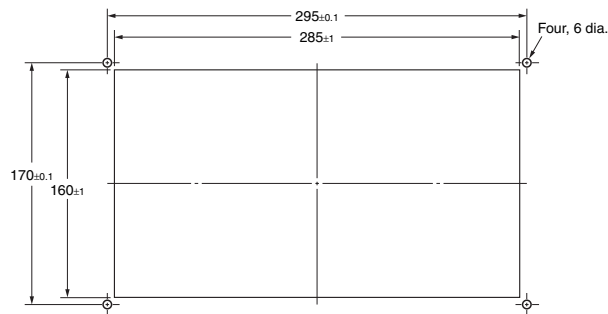
R87B-□A□A15□PF(R)2

Dimensions

Note: All units are in millimeters unless otherwise indicated.



Panel Cutout Dimensions



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Triple Box Fan

R87B-□A□A15□PF(R)3

Ratings and Ordering Information

Airflow Direction: In

| Model | Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | Weight (g) |
|------------------|------|-------------------|---|----------------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|------------|
| | | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| R87B-FA1A15HPPF3 | | 100 | 85% to 110% rated voltage | 50/60 | 2,700 | 3,100 | 3.9 | 4.5 | 86 | 56 | 56 | 58 | 3,380 |
| R87B-FA3A15HPPF3 | | 115 | | | | | | | | | | | |
| R87B-FA4A15HPPF3 | | 200 | | | | | | | | | | | |
| R87B-FA6A15HPPF3 | | 230 | | | | | | | | | | | |
| R87B-FA1A15LPPF3 | | 100 | 85% to 110% rated voltage | 50/60 | 2,100 | 2,200 | 2.9 | 3.1 | 42 | 41 | 47 | 48 | |
| R87B-FA3A15LPPF3 | | 115 | | | | | | | | | | | |
| R87B-FA4A15LPPF3 | | 200 | | | | | | | | | | | |
| R87B-FA6A15LPPF3 | | 230 | | | | | | | | | | | |
| R87B-TA1A15HPPF3 | | 100 | 85% to 110% rated voltage | 50/60 | 2,650 | 3,000 | 3.5 | 4.0 | 68 | 63 | 50 | 53 | 3,410 |
| R87B-TA3A15HPPF3 | | 115 | | | | | | | | | | | |
| R87B-TA4A15HPPF3 | | 200 | | | | | | | | | | | |
| R87B-TA6A15HPPF3 | | 230 | | | | | | | | | | | |
| R87B-TA1A15MPF3 | | 100 | 85% to 110% rated voltage | 50/60 | 2,300 | 2,600 | 2.4 | 2.8 | 41 | 45 | 45 | 48 | |
| R87B-TA3A15MPF3 | | 115 | | | | | | | | | | | |
| R87B-TA4A15MPF3 | | 200 | | | | | | | | | | | |
| R87B-TA6A15MPF3 | | 230 | | | | | | | | | | | |

Note: An asterisk (*) indicates a nominal value.

Airflow Direction: Out

| Model | Item | Rated voltage (V) | Permitted voltage fluctuation range (%) | Frequency (Hz) | Rated rotational speed (r/min)* | | Maximum flow rate (m ³ /min)* | | Maximum static pressure (Pa)* | | Noise (dB)* | | Weight (g) |
|------------------|------|-------------------|---|----------------|---------------------------------|-------|--|-------|-------------------------------|-------|-------------|-------|------------|
| | | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | |
| R87B-FA1A15HPFR3 | | 100 | 85% to 110% rated voltage | 50/60 | 2,700 | 3,100 | 3.9 | 4.5 | 86 | 56 | 56 | 58 | 3,380 |
| R87B-FA3A15HPFR3 | | 115 | | | | | | | | | | | |
| R87B-FA4A15HPFR3 | | 200 | | | | | | | | | | | |
| R87B-FA6A15HPFR3 | | 230 | | | | | | | | | | | |
| R87B-FA1A15LPFR3 | | 100 | 85% to 110% rated voltage | 50/60 | 2,100 | 2,200 | 2.9 | 3.1 | 42 | 41 | 47 | 48 | |
| R87B-FA3A15LPFR3 | | 115 | | | | | | | | | | | |
| R87B-FA4A15LPFR3 | | 200 | | | | | | | | | | | |
| R87B-FA6A15LPFR3 | | 230 | | | | | | | | | | | |
| R87B-TA1A15HPFR3 | | 100 | 85% to 110% rated voltage | 50/60 | 2,650 | 3,000 | 3.5 | 4.0 | 68 | 63 | 50 | 53 | 3,410 |
| R87B-TA3A15HPFR3 | | 115 | | | | | | | | | | | |
| R87B-TA4A15HPFR3 | | 200 | | | | | | | | | | | |
| R87B-TA6A15HPFR3 | | 230 | | | | | | | | | | | |
| R87B-TA1A15MPFR3 | | 100 | 85% to 110% rated voltage | 50/60 | 2,300 | 2,600 | 2.4 | 2.8 | 41 | 45 | 45 | 48 | |
| R87B-TA3A15MPFR3 | | 115 | | | | | | | | | | | |
| R87B-TA4A15MPFR3 | | 200 | | | | | | | | | | | |
| R87B-TA6A15MPFR3 | | 230 | | | | | | | | | | | |

Note: An asterisk (*) indicates a nominal value.

- The data in this table comes from measurements that were taken with the filter and cover attached.
- The model number of the AC Axial-flow Fan in the Box Fan can be determined from the model number of the Box Fan as follows:

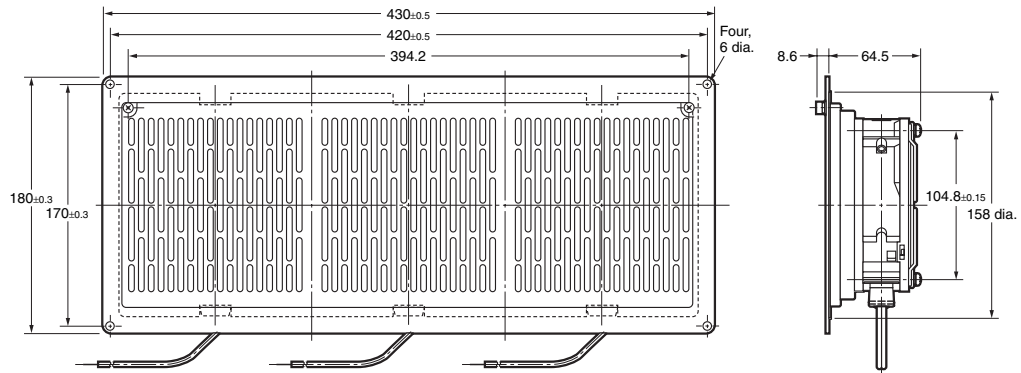
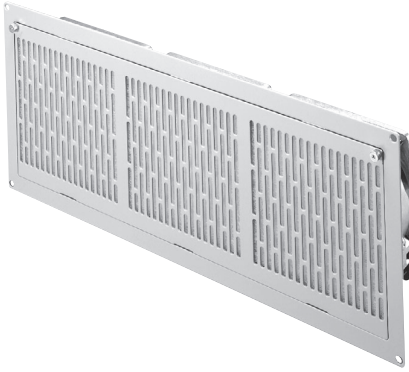
R87B-FA1A15HPPF→R87F-A1A15HP

The model number of the Axial-flow Fan can be determined by extracting the underlined portions from the model number of the Box Fan as shown.

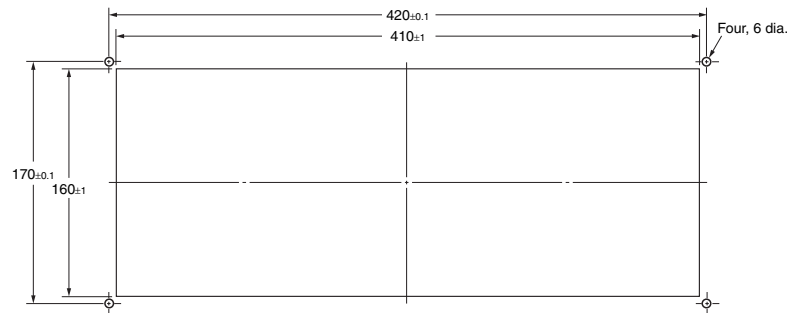
R87B-□A□A15□PF(R)3

Dimensions

Note: All units are in millimeters unless otherwise indicated.



Panel Cutout Dimensions



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

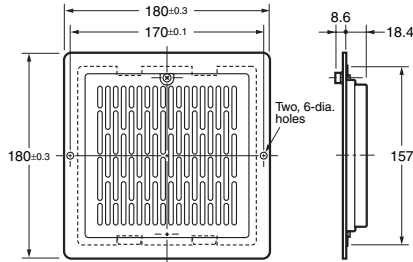
In the interest of product improvement, specifications are subject to change without notice.

Optional Parts

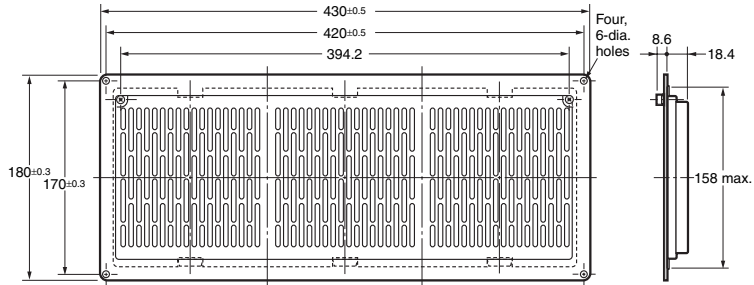
R87B-N□/R87B-PF

R87B-N□ (Attachment)

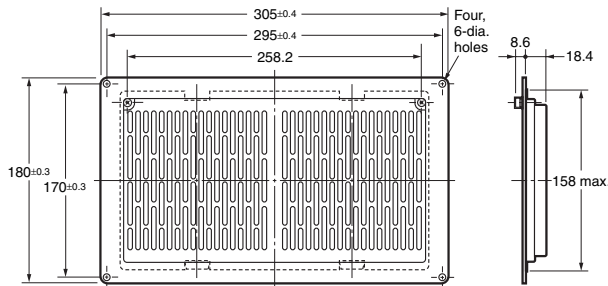
Single Box



Triple Box



Double Box

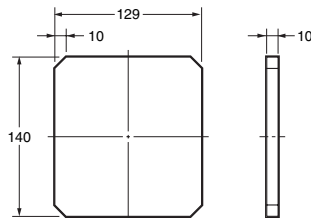


Ratings and Ordering Information

| Model | Item | Type | Weight (g) |
|---------|------|--------|------------|
| R87B-N | | Single | 570 |
| R87B-N2 | | Double | 1,100 |
| R87B-N3 | | Triple | 1,700 |

Note: The panel cut-out dimensions are the same as those for the Box Fan.

R87B-PF01 (Replacement Filter)



Filter Performance

| Heat resistance (°C) | Filtration wind velocity (m/s) | Pressure drop (Pa) | | Dust removal (%) | Dust suction amount (g/mm²) |
|----------------------|--------------------------------|--------------------|-------|------------------|-----------------------------|
| | | Initial | Final | | |
| 100 | 2.5 | 49 | 70 | 70 min. | 300 |

- Pay careful attention to clogging in the filter. A clogged filter will prevent the Fan from providing a cooling effect.

Replacing the Filter

1. Turn OFF the power, wait approximately one minute, and then open the cover. Remove the filter, replace it with a new filter, close the cover, and then firmly tighten the handle screw. This completes the filter replacement.
2. As a general guide to the replacement frequency, check the color of the filter regularly and replace it when the color shows a noticeable change.
3. It is recommended that the filter be replaced soon after the color changes noticeably in order to maintain the Fan's performance. (Replacement Filter: R87B-PF01)

Ratings and Ordering Information

| Model | Item | Qty. | Weight (grams per filter) |
|-----------|------|------|---------------------------|
| R87B-PF01 | | 2 | 6 |

R87B-N□/R87B-PF

■ Accessories

| Model | Item | Mounting bolts (M4) | Hexagonal nuts (M4) | Plain washers | Spring washers | Cable with plug | Finger Guard (See note.) | Filter (See note.) |
|--|------|---------------------|---------------------|---------------|----------------|-----------------|--------------------------|--------------------|
| R87B-□A□A1□□PF(R) (Single, with fan) | | 2 | 2 | 4 | 2 | 1 | 2 | 1 |
| R87B-□A□A1□□PF(R)2 (Double, with fan) | | 4 | 4 | 8 | 4 | 2 | 4 | 2 |
| R87B-□A□A1□□PF(R)3 (Triple, with fan) | | 4 | 4 | 8 | 4 | 3 | 6 | 3 |
| R87B-N (Single, without fan) | | 2 | 2 | 4 | 2 | None | 1 | 1 |
| R87B-N2 (Double, without fan) | | 4 | 4 | 8 | 4 | None | 2 | 2 |
| R87B-N3 (Triple, without fan) | | 4 | 4 | 8 | 4 | None | 3 | 3 |

Note: The Finger Guard and Filter are to be assembled into the Box Fan.

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To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

Terms and Conditions of Sale

- Offer; Acceptance.** These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
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 - Shipments shall be by a carrier selected by Omron; Omron will not drop ship except in "break down" situations.
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 - Delivery and shipping dates are estimates only; and
 - Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
- Claims.** Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
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Certain Precautions on Specifications and Use

- Suitability of Use.** Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given:
 - Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
 - Use in consumer products or any use in significant quantities.
 - Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
 - Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this Product.
 NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON'S PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
- Programmable Products.** Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.
- Performance Data.** Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.
- Change in Specifications.** Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.
- Errors and Omissions.** Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

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